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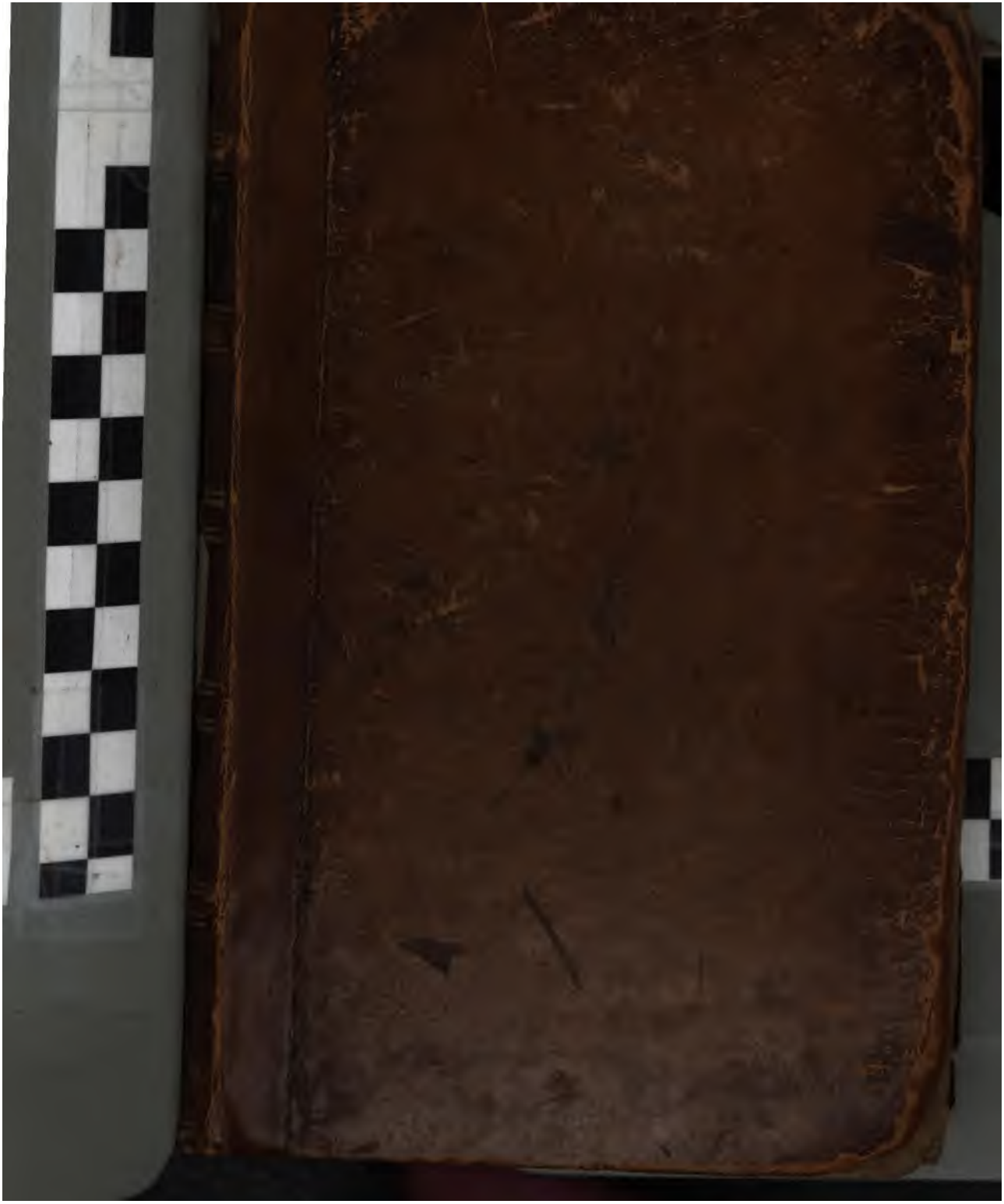

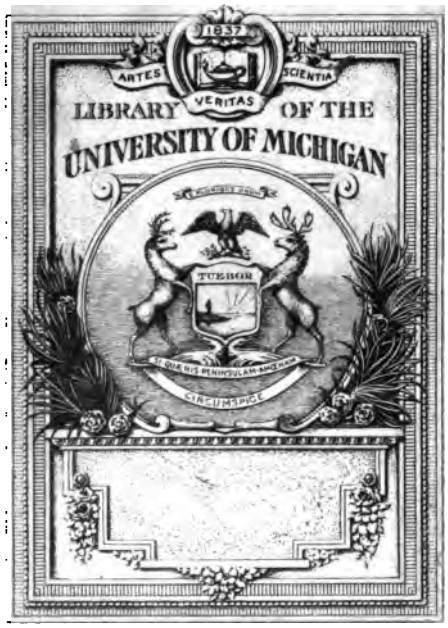
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THE ANALYST;

OR, A DISCOURSE

Addreſſed to an

Infidel MATHEMATICIAN.

WHEREIN

It is examined whether the Object, Principles, and Inferences of the modern Analyſis are more diſtinctly conceived, or more evidently deduced, than Religious Myſteries and Points of Faith.

By the AUTHOR of *The Minute Philoſopher.*

The SECOND EDITION,

Firſt caſt out the beam out of thine own Eye; and then ſhalt thou ſee clearly to caſt out the mote out of thy brother's eye. S. Matt. c. vii. v. 5.

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THE

ANALYST.

I. THOUGH I am a Stranger to your Perſon, yet I am not, Sir, a Stranger to the Reputation you have acquired, in that branch of Learning which have been your peculiar Study; nor to the Authority that you therefore aſſume in things foreign to your Profeſſion, nor to the Abuſe that you, and too many more of the like Character, are known to make of ſuch undue Authority, to the miſleading of unwary Perſons in matters of the higheſt Concernment, and whereof your mathematical Knowledge can by no means qualify you to be a competent Judge. Equity indeed and good Senſe would incline one to diſregard the Judgment of Men, in Points

which they have not conſidered or examined. But ſeveral who make the loudeſt Claim to thoſe Qualities, do, nevertheleſs, the very thing they would ſeem to deſpiſe, clothing themſelves in the Livery of other Mens Opinions, and putting on a general deference for the Judgment of you, Gentlemen, who are preſumed to be of all Men the greateſt Maſters of Reaſon, to be moſt converſant about diſtinct Ideas, and never to take things upon truſt, but always clearly to ſee your way, as Men whoſe conſtant Employment is the deducing Truth by the juſteſt inference from the moſt evident Principles. With this bias on their Minds, they ſubmit to your Deciſions where you have no right to decide. And that this is one ſhort way of making Infidels I am credibly informed.

II. Whereas then it is ſuppoſed, that you apprehend more diſtinctly, conſider more cloſely, infer more juſtly, conclude more accurately than other Men, and that you are therefore leſs religious becauſe more judicious, I ſhall claim the privilege of a Free-Thinker; and take the Liberty to

to inquire into the Object, Principles, and Method of Demonſtration admitted by the Mathematicians of the preſent Age, with the ſame freedom that you preſume to treat the Principles and Myſteries of Religion; to the end, that all Men may ſee what right you have to lead, or what Encouragement others have to follow you. It hath been an old remark that Geometry is an excellent Logic. And it muſt be owned, that when the Definitions are clear; when the Poſtulata cannot be refuſed, nor the Axioms denied; when from the diſtinct Contemplation and Compariſon of Figures, their Properties are derived, by a perpetual well-connected chain of Conſequences, the Objects being ſtill kept in view, and the attention ever fixed upon them; there is acquired an habit of reaſoning, cloſe and exact and methodical: which habit ſtrengthens and ſharpens the Mind, and being transferred to other Subjects, is of general uſe in the inquiry after Truth. But how far this is the caſe of our Geometrical Analyſts, it may be worth while to conſider.

III. The Method of Fluxions is the general Key, by help whereof the modern Mathematicians unlock the ſecrets of Geometry, and conſequently of Nature. And as it is that which hath enabled them ſo remarkably to outgo the Ancients in diſcovering Theorems and ſolving Problems, the exerciſe and application thereof is become the main, if not ſole, employment of all thoſe who in this Age paſs for profound Geometers. But whether this Method be clear or obſcure, conſiſtent or repugnant, demonſtrative or precarious, as I ſhall inquire with the utmoſt impartiality, ſo I ſubmit my inquiry to your own Judgment, and that of every candid Reader. Lines are ſuppoſed to be generated * by the motion of Points, Plains by the motion of Lines, and Solids by the motion of Plains. And whereas Quantities generated in equal times are greater or leſſer, according to the greater or leſſer Velocity, wherewith they increaſe and are generated, a Method hath been found to determine Quantities from the Velocities of their generating Motions.

* Introd. ad Quadraturam Curvarum.

And

And ſuch Velocities are called Fluxions: And the Quantities generated are called flowing Quantities. Theſe Fluxions are ſaid to be nearly as the Increments of the flowing Quantities, generated in the leaſt equal Particles of time; and to be accurately in the firſt Proportion of the naſcent, or in the laſt of the evaneſcent, Increments. Sometimes, inſtead of Velocities, the momentaneous Increments or Decrements of undetermined flowing Quantities are conſidered, under the Appellation of Moments.

IV. By Moments we are not to underſtand finite Particles. Theſe are ſaid not to be Moments, but Quantities generated from Moments, which laſt are only the naſcent Principles of finite Quantities. It is ſaid, that the minuteſt Errors are not to be neglected in Mathematics: that the Fluxions are Celerities, not proportional to the finite Increments though ever ſo ſmall; but only to the Moments or naſcent Increments, whereof the Proportion alone, and not the Magnitude, is conſidered. And of the aforeſaid Fluxions

there be other Fluxions, which Fluxions of Fluxions are called ſecond Fluxions. And the Fluxions of theſe ſecond Fluxions are called third Fluxions; and ſo on, fourth, fifth, ſixth, *&c. ad infinitum.* Now as our Senſe is ſtrained and puzzled with the perception of Objects extremely minute, even ſo the Imagination, which Faculty derives from Senſe, is very much ſtrained and puzzled to frame clear Ideas of the leaſt Particles of time, or the leaſt Increments generated therein: and much more ſo to comprehend the Moments, or thoſe Increments of the flowing Quantities in *ſtatu naſcenti*, in their very firſt origin or beginning to exiſt, before they become finite Particles. And it ſeems ſtill more difficult, to conceive the abſtracted Velocities of ſuch naſcent imperfect Entities. But the Velocities of the Velocities, the ſecond, third, fourth and fifth Velocities, *&c.* exceed, if I miſtake not, all Humane Underſtanding. The further the Mind analyſeth and purſueth theſe fugitive Ideas, the more it is loſt and bewildered; the Objects, at firſt fleeting and minute, ſoon vaniſhing out of ſight. Certainly

tainly in any Senſe a ſecond or third Fluxion ſeems an obſcure Myſtery. The incipient Celerity of an incipient Celerity, the naſcent Augment of a naſcent Augment, *i. e.* of a thing which hath no Magnitude: Take it in which light you pleaſe, the clear Conception of it will, if I miſtake not, be found impoſſible, whether it be ſo or no I appeal to the trial of every thinking Reader. And if a ſecond Fluxion be inconceivable, what are we to think of third, fourth, fifth Fluxions, and ſo onward without end?

V. The foreign Mathematicians are ſuppoſed by ſome, even of our own, to proceed in a manner, leſs accurate perhaps and geometrical, yet more intelligible. Inſtead of flowing Quantities and their Fluxions, they conſider the variable finite Quantities, as increaſing or diminiſhing by the continual Addition or Subduction of infinitely ſmall Quantities. Inſtead of the Velocities wherewith Increments are generated, they conſider the Increments or Decrements themſelves, which they call Differences, and which are ſuppoſed

poſed to be infinitely ſmall. The Difference of a Line is an infinitely little Line; of a Plain an infinitely little Plain. They ſuppoſe finite Quantities to conſiſt of Parts infinitely little, and Curves to be Polygones, whereof the Sides are infinitely little, which by the Angles they make one with another determine the Curvity of the Line. Now to conceive a Quantity infinitely ſmall, that is, infinitely leſs than any ſenſible or imaginable Quantity, or than any the leaſt finite Magnitude, is, I confeſs, above my Capacity. But to conceive a Part of ſuch infinitely ſmall Quantity, that ſhall be ſtill infinitely leſs than it, and conſequently though multiply'd infinitely ſhall never equal the minuteſt finite Quantity, is, I ſuſpect, an infinite Difficulty to any Man whatſoever; and will be allowed ſuch by thoſe who candidly ſay what they think; provided they really think and reflect, and do not take things upon truſt.

VI. And yet in the *calculus differentialis*, which Method ſerves to all the ſame Intents and Ends with that of Fluxions, our

our modern Analyſts are not content to conſider only the Differences of finite Quantities: they alſo conſider the Differences of thoſe Differences, and the Differences of the Differences of the firſt Differences. And ſo on *ad infinitum*. That is, they conſider Quantities infinitely leſs than the leaſt diſcernible Quantity; and others infinitely leſs than thoſe infinitely ſmall ones; and ſtill others infinitely leſs than the preceding Infiniteſimals, and ſo on without end or limit. Inſomuch that we are to admit an infinite ſucceſſion of Infiniteſimals, each infinitely leſs than the foregoing, and infinitely greater than the following. As there are firſt, ſecond, third, fourth, fifth, *&c.* Fluxions, ſo there are Differences, firſt, ſecond, third, fourth, *&c.* in an infinite Progreſſion towards nothing, which you ſtill approach and never arrive at. And (which is moſt ſtrange) although you ſhould take a Million of Millions of theſe Infiniteſimals, each whereof is ſuppoſed infinitely greater than ſome other real Magnitude, and add them to the leaſt given Quantity, it ſhall be never the bigger. For this is one of the modeſt *poſtulata* of

our

our modern Mathematicians, and is a Corner-ſtone or Ground-work of their Speculations.

VII. All theſe Points, I ſay, are ſuppoſed and believed by certain rigorous Exactors of Evidence in Religion, Men who pretend to believe no further than they can ſee. That Men, who have been converſant only about clear Points, ſhould with difficulty admit obſcure ones might not ſeem altogether unaccountable. But he who can digeſt a ſecond or third Fluxion, a ſecond or third Difference, need not, methinks, be ſqueamiſh about any Point in Divinity. There is a natural Preſumption that Mens Faculties are made alike. It is on this Suppoſition that they attempt to argue and convince one another. What, therefore, ſhall appear evidently impoſſible and repugnant to one, may be preſumed the ſame to another. But with what appearance of Reaſon ſhall any Man preſume to ſay, that Myſteries may not be Objects of Faith, at the ſame time that he himſelf admits ſuch obſcure Myſteries to be the Object of Science?

VIII. It

VIII. It muſt indeed be acknowledged, the modern Mathematicians do not conſider theſe Points as Myſteries, but as clearly conceived and maſtered by their comprehenſive Minds. They ſcruple not to ſay, that by the help of theſe new Analytics they can penetrate into Infinity itſelf: That they can even extend their Views beyond Infinity: that their Art comprehends not only Infinite, but Infinite of Infinite (as they expreſs it) or an Infinity of Infinites. But, notwithſtanding all theſe Aſſertions and Pretenſions, it may be juſtly queſtioned whether, as other Men in other Inquiries are often deceived by Words or Terms, ſo they likewiſe are not wonderfully deceived and deluded by their own peculiar Signs, Symbols, or Species. Nothing is eaſier than to deviſe Expreſſions or Notations for Fluxions and Infiniteſimals of the firſt, ſecond, third, fourth and ſubſequent Orders, proceeding in the ſame regular form without end or limit $\dot{x}. \ddot{x}. \dddot{x}. \ddddot{x}.$ &c. or *dx. ddx. dddx. ddddx* &c. Theſe Expreſſions indeed are clear and diſtinct, and the Mind finds no difficulty in conceiving them to be continued beyond any aſſignable Bounds.

But if we remove the Veil and look underneath, if laying aſide the Expreſſions we ſet ourſelves attentively to conſider the things themſelves, which are ſuppoſed to be expreſſed or marked thereby, we ſhall diſcover much Emptineſs, Darkneſs, and Confuſion; nay, if I miſtake not, direct Impoſſibilities and Contradictions. Whether this be the caſe or no, every thinking Reader is intreated to examine and judge for himſelf.

IX. Having conſidered the Object, I proceed to conſider the Principles of this new Analyſis by Momentums, Fluxions, or Infiniteſimals; wherein if it ſhall appear that your capital Points, upon which the reſt are ſuppoſed to depend, include Error and falſe Reaſoning; it will then follow that you, who are at a loſs to conduct yourſelves, cannot with any decency ſet up for guides to other Men. The main Point in the method of Fluxions is to obtain the Fluxion or Momentum of the Rectangle or Product of two indeterminate Quantities. Inaſmuch as from thence are derived Rules for obtaining the

Fluxions

Fluxions of all other Products and Powers; be the Coefficients or the Indexes what they will, integers or fractions, rational or ſurd. Now this fundamental Point one would think ſhould be very clearly made out, conſidering how much is built upon it, and that its Influence extends throughout the whole Analyſis. But let the Reader judge. This is given for Demonſtration. * Suppoſe the Product or Rectangle $A B$ increaſed by continual Motion: and that the momentaneous Increments of the Sides A and B are a and b. When the Sides A and B were deficient, or leſſer by one half of their Moments, the Rectangle was $\overline{A - \frac{1}{2}a} \times \overline{B - \frac{1}{2}b}$ i. e. $AB - \frac{1}{2}aB - \frac{1}{2}bA + \frac{1}{4}ab$. And as ſoon as the Sides A and B are increaſed by the other two halves of their Moments, the Rectangle becomes $\overline{A + \frac{1}{2}a} \times \overline{B + \frac{1}{2}b}$ or $AB + \frac{1}{2}aB + \frac{1}{2}bA + \frac{1}{4}ab$. From the latter Rectangle ſubduct the former, and the remaining difference will be $aB + bA$. Therefore the Increment of the Rectangle generated by the intire Increments a and b is $aB + bA$.

* Naturalis Philoſophiæ principia mathematica, l. 2. lem. 2.

Q. E. D.

Q. E. D. But it is plain that the direct and true Method to obtain the Moment or Increment of the Rectangle AB, is to take the Sides as increaſed by their whole Increments, and ſo multiply them together, $A+a$ by $B+b$, the Product whereof $AB+aB+bA+ab$ is the augmented Rectangle; whence if we ſubduct AB, the Remainder $aB+bA+ab$ will be the true Increment of the Rectangle, exceeding that which was obtained by the former illegitimate and indirect Method by the Quantity ab. And this holds univerſally be the Quantity a and b what they will, big or little, Finite or Infiniteſimal, Increments, Moments, or Velocities. Nor will it avail to ſay that ab is a Quantity exceeding ſmall: Since we are told that *in rebus mathematicis errores quàm minimi non ſunt contemnendi.* * Such reaſoning as this, for Demonſtration, nothing but the obſcurity of the Subject could have encouraged or induced the great Author of the Fluxionary Method to put upon his Followers, and nothing but an implicit deference to Authority could move them to admit. The Caſe indeed is

* Introd. ad Quadraturam Curvarum.

difficult.

difficult. There can be nothing done till you have got rid of the Quantity *a b*. In order to this the Notion of Fluxions is ſhifted: It is placed in various Lights: Points which ſhould be clear as firſt Principles are puzzled; and Terms which ſhould be ſteadily uſed are ambiguous. But notwithſtanding all this addreſs and skill the point of getting rid of *a b* cannot be obtained by legitimate reaſoning. If a Man by Methods, not geometrical or demonſtrative, ſhall have ſatisfied himſelf of the uſefulneſs of certain Rules; which he afterwards ſhall propoſe to his Diſciples for undoubted Truths; which he undertakes to demonſtrate in a ſubtile manner, and by the help of nice and intricate Notions; it is not hard to conceive that ſuch his Diſciples may, to ſave themſelves the trouble of thinking, be inclined to confound the uſefulneſs of a Rule with the certainty of a Truth, and accept the one for the other; eſpecially if they are Men accuſtomed rather to compute than to think; earneſt rather to go on faſt and far, than ſolicitous to ſet out warily and ſee their way diſtinctly.

XI. The Points or meer Limits of naſcent Lines are undoubtedly equal, as having no more magnitude one than another, a Limit as ſuch being no Quantity. If by a Momentum you mean more than the very initial Limit, it muſt be either a finite Quantity or an Infiniteſimal. But all finite Quantities are expreſly excluded from the Notion of a Momentum. Therefore the Momentum muſt be an Infiniteſimal. And indeed, though much Artifice hath been employ'd to eſcape or avoid the admiſſion of Quantities infinitely ſmall, yet it ſeems ineffectual. For ought I ſee, you can admit no Quantity as a Medium between a finite Quantity and nothing, without admitting Infiniteſimals. An Increment generated in a finite Particle of Time, is itſelf a finite Particle; and cannot therefore be a Momentum. You muſt therefore take an Infiniteſimal Part of Time wherein to generate your Momentum. It is ſaid, the Magnitude of Moments is not conſidered: And yet theſe ſame Moments are ſuppoſed to be divided into Parts. This is not eaſy to conceive, no more than it is why we ſhould take Quantities

Quantities leſs than A and B in order to obtain the Increment of $A\,B$, of which proceeding it muſt be owned the final Cauſe or Motive is very obvious; but it is not ſo obvious or eaſy to explain a juſt and legitimate Reaſon for it, or ſhew it to be Geometrical.

XII. From the foregoing Principle ſo demonſtrated, the general Rule for finding the Fluxion of any Power of a flowing Quantity is derived *. But, as there ſeems to have been ſome inward Scruple or Conſciouſneſs of defect in the foregoing Demonſtration, and as this finding the Fluxion of a given Power is a Point of primary Importance, it hath therefore been judged proper to demonſtrate the ſame in a different manner independent of the foregoing Demonſtration. But whether this other Method be more legitimate and concluſive than the former, I proceed now to examine; and in order thereto ſhall premiſe the following Lemma. "If with a View to demonſtrate any

* Philoſophiæ naturalis principia Mathematica, lib. 2. em. 2.

" Propoſition, a certain Point is ſuppoſed, " by virtue of which certain other Points " are attained; and ſuch ſuppoſed Point " be itſelf afterwards deſtroyed or rejected " by a contrary Suppoſition; in that caſe, " all the other Points, attained thereby " and conſequent thereupon, muſt alſo " be deſtroyed and rejected, ſo as from " thence forward to be no more ſuppoſed " or applied in the Demonſtration." This is ſo plain as to need no Proof.

XIII. Now the other Method of obtaining a Rule to find the Fluxion of any Power is as follows. Let the Quantity x flow uniformly, and be it propoſed to find the Fluxion of x^n. In the ſame time that x by flowing becomes $x + o$, the Power x^n becomes $\overline{x + o}|^n$, i. e. by the Method of infinite Series $x^n + nox^{n-1} + \frac{nn-n}{2}oox^{n-2} + \&c.$ and the Increments o and $nox^{n-1} + \frac{nn-n}{2}oox^{n-2} + \&c.$ are one to another as 1 to $nx^{n-1} + \frac{nn-n}{2}ox^{n-2} + \&c.$ Let now the Increments vaniſh, and their laſt Proportion will be 1 to nx^{n-1}. But it ſhould ſeem that

that this reaſoning is not fair or concluſive. For when it is ſaid, let the Increments vaniſh, *i. e.* let the Increments be nothing, or let there be no Increments, the former Suppoſition that the Increments were ſomething, or that there were Increments, is deſtroyed, and yet a Conſequence of that Suppoſition, *i. e.* an Expreſſion got by virtue thereof, is retained. Which, by the foregoing Lemma, is a falſe way of reaſoning. Certainly when we ſuppoſe the Increments to vaniſh, we muſt ſuppoſe their Proportions, their Expreſſions, and every thing elſe derived from the Suppoſition of their Exiſtence to vaniſh with them.

XIV. To make this Point plainer, I ſhall unfold the reaſoning, and propoſe it in a fuller light to your View. It amounts therefore to this, or may in other Words be thus expreſſed. I ſuppoſe that the Quantity x flows, and by flowing is increaſed, and its increment I call o, ſo that by flowing it becomes $x + o$. And as x increaſeth, it follows that every Power of x is likewiſe increaſed in a due Pro-

portion. Therefore as x becomes $x + o$, x^n will become $\overline{x + o}|^n$: that is, according to the Method of infinite Series, $x^n + n o x^{n-1} + \frac{nn-n}{2} o o x^{n-2} + \&c.$ And if from the two augmented Quantities we ſubduct the Root and the Power reſpectively, we ſhall have remaining the two Increments, to wit, o and $n o x^{n-1} + \frac{nn-n}{2} o o x^{n-2} + \&c.$ which Increments, being both divided by the common Diviſor o, yield the Quotients 1 and $n x^{n-1} + \frac{nn-n}{2} o x^{n-2} + \&c.$ which are therefore Exponents of the Ratio of the Increments. Hitherto I have ſuppoſed that x flows, that x hath a real Increment, that o is ſomething. And I have proceeded all along on that Suppoſition, without which I ſhould not have been able to have made ſo much as one ſingle Step. From that Suppoſition it is that I get at the Increment of x^n, that I am able to compare it with the Increment of x, and that I find the Proportion between the two Increments. I now beg leave to make a new Suppoſition contrary to the firſt, *i. e.* I will ſuppoſe that there is no Increment

of

of x, or that o is nothing; which ſecond Suppoſition deſtroys my firſt, and is inconſiſtent with it, and therefore with every thing that ſuppoſeth it. I do nevertheleſs beg leave to retain $n\,x^{n-1}$, which is an Expreſſion obtained in virtue of my firſt Suppoſition, which neceſſarily preſuppoſeth ſuch Suppoſition, and which could not be obtained without it: All which ſeems a moſt inconſiſtent way of arguing, and ſuch as would not be allowed of in Divinity.

XV. Nothing is plainer than that no juſt Concluſion can be directly drawn from two inconſiſtent Suppoſitions. You may indeed ſuppoſe any thing poſſible: But afterwards you may not ſuppoſe any thing that deſtroys what you firſt ſuppoſed. Or if you do, you muſt begin *de novo*. If therefore you ſuppoſe that the Augments vaniſh, *i. e.* that there are no Augments, you are to begin again, and ſee what follows from ſuch Suppoſition. But nothing will follow to your purpoſe. You cannot by that means ever arrive at your Concluſion, or ſucceed in, what is called by

the celebrated Author, the Inveſtigation of the firſt or laſt Proportions of naſcent and evaneſcent Quantities, by inſtituting the Analyſis in finite ones. I repeat it again: You are at liberty to make any poſſible Suppoſition: And you may deſtroy one Suppoſition by another: But then you may not retain the Conſequences, or any part of the Conſequences of your firſt Suppoſition ſo deſtroyed. I admit that Signs may be made to denote either any thing or nothing: And conſequently that in the original Notation $x + o$, o might have ſignified either an Increment or nothing. But then which of theſe ſoever you make it ſignify, you muſt argue conſiſtently with ſuch its Signification, and not proceed upon a double Meaning: Which to do were a manifeſt Sophiſm. Whether you argue in Symbols or in Words, the Rules of right Reaſon are ſtill the ſame. Nor can it be ſuppoſed, you will plead a Privilege in Mathematics to be exempt from them.

XVI. If you aſſume at firſt a Quantity increaſed by nothing, and in the Expreſſion

ſion $x + o$, o ſtands for nothing, upon this Suppoſition as there is no Increment of the Root, ſo there will be no Increment of the Power; and conſequently there will be none except the firſt, of all thoſe Members of the Series conſtituting the Power of the Binomial; you will therefore never come at your Expreſſion of a Fluxion legitimately by ſuch Method. Hence you are driven into the fallacious way of proceeding to a certain Point on the Suppoſition of an Increment, and then at once ſhifting your Suppoſition to that of no Increment. There may ſeem great Skill in doing this at a certain Point or Period. Since if this ſecond Suppoſition had been made before the common Diviſion by o, all had vaniſhed at once, and you muſt have got nothing by your Suppoſition. Whereas by this Artifice of firſt dividing, and then changing your Suppoſition, you retain 1 and $n x^{n-1}$. But, notwithſtanding all this addreſs to cover it, the fallacy is ſtill the ſame. For whether it be done ſooner or later, when once the ſecond Suppoſition or Aſſumption is made, in the ſame inſtant the former Aſſumption

and

and all that you got by it is deſtroyed, and goes out together. And this is univerſally true, be the Subject what it will, throughout all the Branches of humane Knowledge; in any other of which, I believe, Men would hardly admit ſuch a reaſoning as this, which in Mathematics is accepted for Demonſtration.

XVII. It may not be amiſs to obſerve, that the Method for finding the Fluxion of a Rectangle of two flowing Quantities, as it is ſet forth in the Treatiſe of Quadratures, differs from the abovementioned taken from the ſecond Book of the Principles, and is in effect the ſame with that uſed in the *calculus differentialis* *. For the ſuppoſing a Quantity infinitely diminiſhed and therefore rejecting it, is in effect the rejecting an Infiniteſimal; and indeed it requires a marvellous ſharpneſs of Diſcernment, to be able to diſtinguiſh between evaneſcent Increments and infiniteſimal Differences. It may perhaps be ſaid that the Quantity being infinitely diminiſhed becomes nothing, and ſo nothing is rejected. But according to the

* Analyſe des infiniment petits, part. 1 prop. 2,

received

received Principles it is evident, that no Geometrical Quantity, can by any diviſion or ſubdiviſion whatſoever be exhauſted, or reduced to nothing. Conſidering the various Arts and Devices uſed by the great Author of the Fluxionary Method: in how many Lights he placeth his Fluxions: and in what different ways he attempts to demonſtrate the ſame Point: one would be inclined to think, he was himſelf ſuſpicious of the juſtneſs of his own demonſtrations; and that he was not enough pleaſed with any one notion ſteadily to adhere to it. Thus much at leaſt is plain, that he owned himſelf ſatisfied concerning certain Points, which nevertheleſs he could not undertake to demonſtrate to others *. Whether this ſatisfaction aroſe from tentative Methods or Inductions; which have often been admitted by Mathematicians, (for inſtance by Dr. *Wallis* in his Arithmetic of Infinites) is what I ſhall not pretend to determine. But, whatever the Caſe might have been with reſpect to the Author, it appears that his Followers have ſhewn themſelves more eager in ap-

* *See letter to* Collins, Nov. 8, 1676.

plying

plying his Method, than accurate in examining his Principles.

XVIII. It is curious to obſerve, what ſubtilty and skill this great Genius employs to ſtruggle with an inſuperable Difficulty; and through what Labyrinths he endeavours to eſcape the Doctrine of Infiniteſimals; which as it intrudes upon him whether he will or no, ſo it is admitted and embraced by others without the leaſt repugnance. *Leibnitz* and his Followers in their *calculus differentialis* making no manner of ſcruple, firſt to ſuppoſe, and ſecondly to reject Quantities infinitely ſmall: with what clearneſs in the Apprehenſion and juſtneſs in the reaſoning, any thinking Man, who is not prejudiced in favour of thoſe things, may eaſily diſcern. The Notion or Idea of an infiniteſimal Quantity, as it is an Object ſimply apprehended by the Mind, hath been already conſidered *. I ſhall now only obſerve as to the method of getting rid of ſuch Quantities, that it is done without the leaſt Ceremony. As in

* *Sect.* 5. and 6.

Fluxions

Fluxions the Point of firſt importance, and which paves the way to the reſt, is to find the Fluxion of a Product of two indeterminate Quantities, ſo in the *calculus differentialis* (which Method is ſuppoſed to have been borrowed from the former with ſome ſmall Alterations) the main Point is to obtain the difference of ſuch Product. Now the Rule for this is got by rejecting the Product or Rectangle of the Differences. And in general it is ſuppoſed, that no Quantity is bigger or leſſer for the Addition or Subduction of its Infiniteſimal: and that conſequently no error can ariſe from ſuch rejection of Infiniteſimals.

XIX. And yet it ſhould ſeem that, whatever errors are admitted in the Premiſes, proportional errors ought to be apprehended in the Concluſion, be they finite or infiniteſimal: and that therefore the ἀκρίβεια of Geometry requires nothing ſhould be neglected or rejected. In anſwer to this you will perhaps ſay, that the Concluſions are accurately true, and that therefore the Principles and Methods from whence they are derived muſt be ſo too.

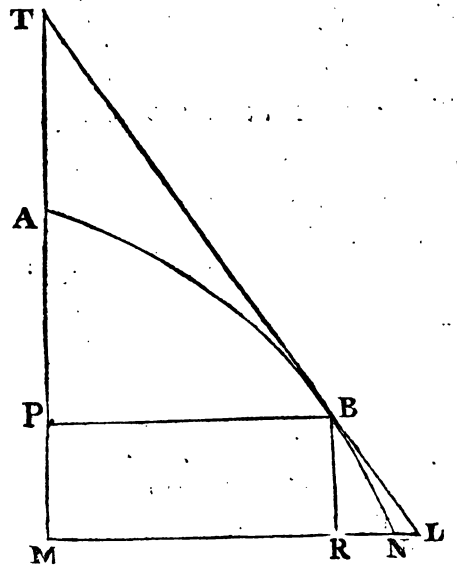
But

But this inverted way of demonſtrating your Principles by your Concluſions, as it would be peculiar to you Gentlemen, ſo it is contrary to the Rules of Logic. The truth of the Concluſion will not prove either the Form or the Matter of a Syllogiſm to be true: inaſmuch as the Illation might have been wrong or the Premiſes falſe, and the Concluſion nevertheleſs true, though not in virtue of ſuch Illation or of ſuch Premiſes. I ſay that in every other Science Men prove their Concluſions by their Principles, and not their Principles by the Concluſions. But if in yours you ſhould allow yourſelves this unnatural way of proceeding, the Conſequence would be that you muſt take up with Induction, and bid adieu to Demonſtration. And if you ſubmit to this, your Authority will no longer lead the way in Points of Reaſon and Science.

XX. I have no Controverſy about your Concluſions, but only about your Logic and Method. How you demonſtrate? What Objects you are converſant with, and whether you conceive them clearly? What

What Principles you proceed upon; how ſound they may be; and how you apply them? It muſt be remembred that I am not concerned about the truth of your Theorems, but only about the way of coming at them; whether it be legitimate or illegitimate, clear or obſcure, ſcientific or tentative. To prevent all poſſibility of your miſtaking me, I beg leave to repeat and inſiſt, that I conſider the Geometrical Analyſt as a Logician, *i. e.* ſo far forth as he reaſons and argues; and his Mathematical Concluſions, not in themſelves, but in their Premiſes; not as true or falſe, uſeful or inſignificant, but as derived from ſuch Principles, and by ſuch Inferences. And foraſmuch as it may perhaps ſeem an unaccountable Paradox, that Mathematicians ſhould deduce true Propoſitions from falſe Principles, be right in the Concluſion, and yet err in the Premiſes; I ſhall endeavour particularly to explain why this may come to paſs, and ſhew how Error may bring forth Truth, though it cannot bring forth Science.

XXI. In order therefore to clear up this Point, we will ſuppoſe for inſtance that a Tangent is to be drawn to a Parabola, and examine the progreſs of this Affair, as it is performed by infiniteſimal Differences.



Let AB be a Curve, the Abſciſſe $AP=x$, the ordinate $PB=y$, the Difference of the Abſciſſe $PM=dx$, the Difference of the Ordinate $RN=dy$. Now by ſuppoſing the Curve to be a Polygon, and conſequently BN, the Increment or Difference of the Curve, to be a ſtraight Line coincident with

with the Tangent, and the differential Triangle BRN to be ſimilar to the triangle TPB the Subtangent PT is found a fourth Proportional to RN: RB: PB: that is to $dy : dx : y$. Hence the Subtangent will be $\frac{y\,dx}{dy}$. But herein there is an error ariſing from the forementioned falſe ſuppoſition, whence the value of PT comes out greater than the Truth: for in reality it is not the Triangle RNB but RLB, which is ſimilar to PBT, and therefore (inſtead of RN) RL ſhould have been the firſt term of the Proportion, *i. e.* $RN + NL$, *i. e.* $dy + z$: whence the true expreſſion for the Subtangent ſhould have been $\frac{y\,dx}{dy+z}$. There was therefore an error of defect in making dy the diviſor: which error was equal to z. *i. e.* NL the Line comprehended between the Curve and the Tangent. Now by the nature of the Curve $yy = px$, ſuppoſing p to be the Parameter, whence by the rule of Differences $2y\,dy = p\,dx$ and $dy = \frac{p\,dx}{dy}$. But if you multiply $y + dy$ by itſelf, and retain the whole Product without rejecting the Square of the Diffe-

rence, it will then come out, by ſubſtituting the augmented Quantities in the Equation of the Curve, that $dy = \frac{p\,dx}{2y} - \frac{dy\,dy}{2y}$ truly. There was therefore an error of exceſs in making $dy = \frac{p\,dx}{2y}$, which followed from the erroneous Rule of Differences. And the meaſure of this ſecond error is $\frac{dy\,dy}{2y} = +z$. Therefore the two errors being equal and contrary deſtroy each other; the firſt error of defect being corrected by a ſecond error of exceſs.

XXII. If you had committed only one error, you would not have come at a true Solution of the Problem. But by virtue of a twofold miſtake you arrive, though not at Science, yet at Truth. For Science it cannot be called, when you proceed blindfold, and arrive at the Truth not knowing how or by what means. To demonſtrate that z is equal to $\frac{dy\,dy}{2y}$, let BR or dx be m and RN or dy be n. By the thirty third Propoſition of the firſt Book of the Conics of *Apollonius*, and from ſimilar Triangles,

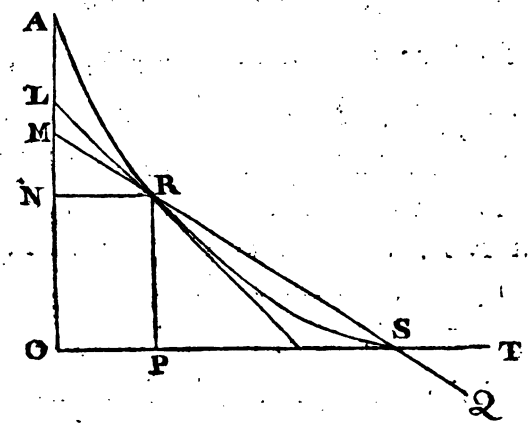
Triangles, as $2x$ to y ſo is m to $n + z = \frac{my}{2x}$. Likewiſe from the Nature of the Parabola $yy + 2yn + nn = xp + mp$, and $2yn + nn = mp$: wherefore $\frac{2yn+nn}{p} = m$: and becauſe $yy = px$, $\frac{yy}{p}$ will be equal to x. Therefore ſubſtituting theſe values inſtead of m and x we ſhall have $n + z = \frac{my}{2x} = \frac{2yynp+ynnp}{2yyp}$: i. e. $n + z = \frac{2yn+nn}{2y}$: which being reduced gives $z = \frac{nn}{2y} = \frac{dydy}{2y}$ Q. E. D.

XXIII. Now I obſerve in the firſt place, that the Concluſion comes out right, not becauſe the rejected Square of dy was infinitely ſmall; but becauſe this error was compenſated by another contrary and equal error. I obſerve in the ſecond place, that whatever is rejected, be it ever ſo ſmall, if it be real and conſequently makes a real error in the Premiſes, it will produce a proportional real error in the Concluſion. Your Theorems therefore cannot be accurately true, nor your Problems accurately ſolved, in virtue of Premiſes,

which themſelves are not accurate, it being a rule in Logic that *Concluſio ſequitur partem debiliorem.* Therefore I obſerve in the third place, that when the Concluſion is evident and the Premiſes obſcure, or the Concluſion accurate and the Premiſes inaccurate, we may ſafely pronounce that ſuch Concluſion is neither evident nor accurate, in virtue of thoſe obſcure inaccurate Premiſes or Principles; but in virtue of ſome other Principles which perhaps the Demonſtrator himſelf never knew or thought of. I obſerve in the laſt place, that in caſe the Differences are ſuppoſed finite Quantities ever ſo great, the Concluſion will nevertheleſs come out the ſame: inaſmuch as the rejected Quantities are legitimately thrown out, not for their ſmallneſs, but for another reaſon, to wit, becauſe of contrary errors, which deſtroying each other do upon the whole cauſe that nothing is really, though ſomething is apparently thrown out. And this Reaſon holds equally, with reſpect to Quantities finite as well as infiniteſimal, great as well as ſmall, a Foot or a Yard long as well as the minuteſt Increment.

XXIV. For

XXIV. For the fuller illuſtration of this Point, I ſhall conſider it in another light. and proceeding in finite Quantities to the Concluſion, I ſhall only then make uſe



of one Infiniteſimal. Suppoſe the ſtraight Line MQ cuts the Curve AT in the Points R and S. Suppoſe LR a Tangent at the Point R, AN the Abſciſſe, NR and OS Ordinates. Let AN be produced to O, and RP be drawn parallel to NO. Suppoſe $AN = x$, $NR = y$, $NO = v$, $PS = z$, the ſubſecant $MN = S$. Let the Equation $y = xx$ expreſs the nature of the Curve: and ſuppoſing y and x increaſed by their finite Increments, we get $y + z = xx + 2xv + vv$: whence the former

Equation being ſubducted there remains $z = 2xv + vv$. And by reaſon of ſimilar Triangles $PS : PR :: NR : NM$, *i.e.* $z : v :: y : s = \frac{vy}{z}$, wherein if for y and z we ſubſtitue their values, we get $\frac{vxx}{2xv+vv} = s = \frac{xx}{2x+v}$. And ſuppoſing NO to be infinitely diminiſhed, the ſubſecant NM will in that caſe coincide with the ſubtangent NL, and v as an Infiniteſimal may be rejected, whence it follows that $S = NL = \frac{xx}{2x} = \frac{x}{2}$; which is the true value of the Subtangent. And ſince this was obtained by one only error, *i. e.* by once rejecting one only Infiniteſimal, it ſhould ſeem, contrary to what hath been ſaid, that an infiniteſimal Quantity or Difference may be neglected or thrown away, and the Concluſion nevertheleſs be accurately true, although there was no double miſtake or rectifying of one error by another, as in the firſt Caſe. But if this Point be throughly conſidered, we ſhall find there is even here a double miſtake, and that one compenſates or rectifies the other. For in the

firſt

firſt place, it was ſuppoſed, that when NO is infinitely diminiſhed or becomes an Infiniteſimal, then the Subſecant NM becomes equal to the Subtangent NL. But this is a plain miſtake, for it is evident, that as a Secant cannot be a Tangent, ſo a Subſecant cannot be a Subtangent. Be the Difference ever ſo ſmall, yet ſtill there is a Difference. And if NO be infinitely ſmall, there will even then be an infinitely ſmall Difference between NM and NL. Therefore NM or S was too little for your ſuppoſition, (when you ſuppoſed it equal to NL) and this error was compenſated by a ſecond error in throwing out v, which laſt error made s bigger than its true value, and in lieu thereof gave the value of the Subtangent. This is the true State of the Caſe, however it may be diſguiſed. And to this in reality it amounts, and is at bottom the ſame thing, if we ſhould pretend to find the Subtangent by having firſt found, from the Equation of the Curve and ſimilar Triangles, a general Expreſſion for all Subſecants, and then reducing the Subtangent under this general Rule, by conſidering it as the

Subſecant when v vaniſhes or becomes nothing.

XXV. Upon the whole I obſerve, *Firſt*, that v can never be nothing ſo long as there is a ſecant. *Secondly*, That the ſame Line cannot be both tangent and ſecant. *Thirdly*, that when v or NO * vaniſheth, PS and SR do alſo vaniſh, and with them the proportionality of the ſimilar Triangles. Conſequently the whole Expreſſion, which was obtained by means thereof and grounded thereupon, vaniſheth when v vaniſheth. *Fourthly*, that the Method for finding Secants or the Expreſſion of Secants, be it ever ſo general, cannot in common ſenſe extend any further than to all Secants whatſoever: and, as it neceſſarily ſuppoſeth ſimilar Triangles, it cannot be ſuppoſed to take place where there are not ſimilar Triangles. *Fifthly*, that the Subſecant will always be leſs than the Subtangent, and can never coincide with it; which Coincidence to ſuppoſe would be abſurd; for it would be ſuppoſing, the ſame Line at the ſame time to cut and

* *See the foregoing Figure.*

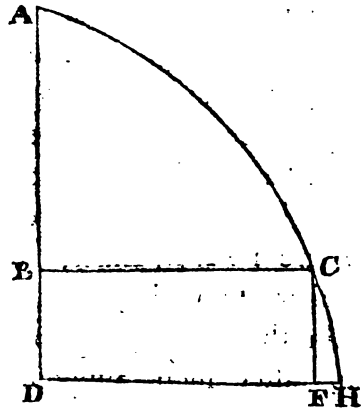
not

not to cut another given Line, which is a manifeſt Contradiction, ſuch as ſubverts the Hypotheſis and gives a Demonſtration of its Falſhood. *Sixthly*, if this be not admitted, I demand a Reaſon why any other apagogical Demonſtration, or Demonſtration *ad abſurdum* ſhould be admitted in Geometry rather than this: Or that ſome real Difference be aſſigned between this and others as ſuch. *Seventhly*, I obſerve that it is ſophiſtical to ſuppoſe *N O* or *R P*, *P S*, and *S R* to be finite real Lines in order to form the Triangle *R P S*, in order to obtain Proportions by ſimilar Triangles; and afterwards to ſuppoſe there are no ſuch Lines, nor conſequently ſimilar Triangles, and nevertheleſs to retain the Conſequence of the firſt Suppoſition, after ſuch Suppoſition hath been deſtroyed by a contrary one. *Eighthly*, That although, in the preſent caſe, by inconſiſtent Suppoſitions Truth may be obtained, yet that ſuch Truth is not demonſtrated: That ſuch Method is not conformable to the Rules of Logic and right Reaſon: That, however uſeful it may be, it muſt be conſidered only as a Preſumption,

as

as a Knack, an Art or rather an Artifice, but not a ſcientific Demonſtration.

XXVI. The Doctrine premiſed may be farther illuſtrated by the following ſimple and eaſy Caſe, wherein I ſhall proceed by evaneſcent Increments. Suppoſe $AB = x$,



$BC = y$, $BD = o$, and that $x\,x$ is equal to the Area ABC: It is propoſed to find the Ordinate y or BC. When x by flowing becomes $x + o$, then $x\,x$ becomes $x\,x + 2\,x\,o + o\,o$: And the Area ABC becomes ADH, and the Increment of $x\,x$ will be equal to $BDHC$ the Increment of the Area,

Area, *i. e.* to $BCFD + CFH$. And if we ſuppoſe the curvilinear Space CFH to be qoo, then $2xo + oo = yo + qoo$ which divided by o gives $2x + o = y + qo$. And, ſuppoſing o to vaniſh, $2x = y$, in which Caſe ACH will be a ſtraight Line, and the Areas ABC, CFH, Triangles. Now with regard to this Reaſoning, it hath been already remarked *, that it is not legitimate or logical to ſuppoſe o to vaniſh, *i. e.* to be nothing, *i. e.* that there is no Increment, unleſs we reject at the ſame time with the Increment itſelf every Conſequence of ſuch Increment, *i. e.* whatſoever could not be obtained but by ſuppoſing ſuch Increment. It muſt nevertheleſs be acknowledged, that the Problem is rightly ſolved, and the Concluſion true, to which we are led by this Method. It will therefore be asked, how comes it to paſs that the throwing out o is attended with no Error in the Concluſion? I anſwer, the true reaſon hereof is plainly this: Becauſe q being Unite, qo is equal to o: And therefore $2x + o - qo = y = 2x$,

* *Sect.* 12 *and* 13. *ſupra.*

the

the equal Quantities $q\,o$ and o being deſtroyed by contrary Signs,

XXVII. As on the one hand it were abſurd to get rid of o by ſaying, let me contradict myſelf: Let me ſubvert my own Hypotheſis: Let me take it for granted that there is no Increment, at the ſame time that I retain a Quantity, which I could never have got at but by aſſuming an Increment: So on the other hand it would be equally wrong to imagine, that in a geometrical Demonſtration we may be allowed to admit any Error, though ever ſo ſmall, or that it is poſſible, in the nature of Things, an accurate Concluſion ſhould be derived from inaccurate Principles. Therefore o cannot be thrown out as an Infiniteſimal, or upon the Principle that Infiniteſimals may be ſafely neglected. But only becauſe it is deſtroyed by an equal Quantity with a negative Sign, whence $o - q\,o$ is equal to nothing. And as it is illegitimate to reduce an Equation, by ſubducting from one Side a Quantity when it is not to be deſtroyed, or when an equal Quantity is not ſubducted from the

the other Side of the Equation: So it muſt be allowed a very logical and juſt Method of arguing, to conclude that if from Equals either nothing or equal Quantities are ſubducted, they ſhall ſtill remain equal. And this is a true Reaſon why no Error is at laſt produced by the rejecting of *o*. Which therefore muſt not be aſcribed to the Doctrine of Differences, or Infiniteſimals, or evaneſcent Quantities, or Momentums, or Fluxions.

XXVIII. Suppoſe the Caſe to be general, and that x^n is equal to the Area *A B C*. whence by the Method of Fluxions the Ordinate is found nx^{n-1} which we admit for true, and ſhall inquire how it is arrived at. Now if we are content to come at the Concluſion in a ſummary way, by ſuppoſing that the Ratio of the Fluxions of x and x^n are found * to be 1 and nx^{n-1}, and that the Ordinate of the Area is conſidered as its Fluxion; we ſhall not ſo clearly ſee our way, or perceive how the truth comes out, that Method as we have ſhewed before being ob-

* *Sect.* 3.

ſcure

same and logical. But if we fairly determine the Area and its Increment, and divide the latter into two Parts $BCFD$ and CFH*, and proceed regularly by Equations between the algebraical and geometrical Quantities, the reaſon of the thing will plainly appear. For as x^n is equal to the Area ABC, ſo is the Increment of x^n equal to the Increment of the Area, *i. e.* to $BDHC$; that is, to ſay, $nox^{n-1} + \frac{nn-n}{2}oox^{n-2} + \&c. = BDFC + CFH$. And only the firſt Members, on each Side of the Equation being retained, $nox^{n-1} = BDFC$: And dividing both Sides by o or BD, we ſhall get $nx^{n-1} = BC$. Admitting, therefore, that the curvilinear Space CFH is equal to the rejectaneous Quantity $\frac{nn-n}{2}oox^{n-2} + \&c.$ and that when this is rejected on one Side, that is rejected on the other, the reaſoning becomes juſt and the Concluſion true. And it is all one whatever Magnitude you allow to BD, whether that of an infiniteſimal Difference or a finite Increment ever ſo great. It is therefore plain, that the ſuppoſing the rejectaneous alge-

* See the Figure in Sect. 26.

algebraical Quantity to be an infinitely ſmall or evaneſcent Quantity, and therefore to be neglected, muſt have produced an Error, had it not been for the curvilinear Spaces being equal thereto, and at the ſame time ſubducted from the other Part or Side of the Equation agreeably to the Axiom, *If from Equals you ſubduct Equals, the Remainders will be equal.* For thoſe Quantities which by the Analyſts are ſaid to be neglected, or made to vaniſh, are in reality ſubducted. If therefore the Concluſion be true, it is abſolutely neceſſary that the finite Space CFH be equal to the Remainder of the Increment expreſſed by $\frac{nn-n}{2} o o x^{n-2}$ &c. equal I ſay to the finite Remainder of a finite Increment.

XXIX. Therefore, be the Power what you pleaſe, there will ariſe on one Side an algebraical Expreſſion, on the other a geometrical Quantity, each of which naturally divides itſelf into three Members: The algebraical or fluxionary Expreſſion, into one which includes neither the Expreſſion

preſſion of the Increment of the Abſciſs nor of any Power thereof, another which includes the Expreſſion of the Increment itſelf, and a third including the Expreſſion of the Powers of the Increment. The geometrical Quantity alſo or whole increaſed Area conſiſts of three Parts or Members, the firſt of which is the given Area, the ſecond a Rectangle under the Ordinate and the Increment of the Abſciſs, and the third a curvilinear Space. And, comparing the homologous or correſpondent Members on both Sides, we find that as the firſt Member of the Expreſſion is the Expreſſion of the given Area, ſo the ſecond Member of the Expreſſion will expreſs the Rectangle or ſecond Member of the geometrical Quantity; and the third, containing the Powers of the Increment, will expreſs the curvilinear Space, or third Member of the geometrical Quantity. This hint may, perhaps, be further extended and applied to good purpoſe, by thoſe who have leiſure and curioſity for ſuch Matters. The uſe I make of it is to ſhew, that the Analyſis cannot obtain in Augments or Differences, but

but it muſt alſo obtain in finite Quantities, be they ever ſo great, as was before obſerved.

XXX. It ſeems therefore upon the whole that we may ſafely pronounce, the Concluſion cannot be right, if in order thereto any Quantity be made to vaniſh, or be neglected, except that either one Error is redreſſed by another; or that ſecondly, on the ſame Side of an Equation equal Quantities are deſtroyed by contrary Signs, ſo that the Quantity we mean to reject is firſt annihilated; or laſtly, that from the oppoſite Sides equal Quantities are ſubducted. And therefore to get rid of Quantities by the received Principles of Fluxions or of Differences is neither good Geometry nor good Logic. When the Augments vaniſh, the Velocities alſo vaniſh. The Velocities or Fluxions are ſaid to be *primò* and *ultimò*, as the Augments naſcent and evaneſcent. Take therefore the *Ratio* of the evaneſcent Quantities, it is the ſame with that of the Fluxions. It will therefore anſwer all Intents as well. Why then are Fluxions

introduced? Is it not to ſhun or rather to palliate the Uſe of Quantities infinitely ſmall? But we have no Notion whereby to conceive and meaſure various Degrees of Velocity, beſide Space and Time, or when the Times are given, beſide Space alone. We have even no Notion of Velocity preſcinded from Time and Space. When therefore a Point is ſuppoſed to move in given Times, we have no Notion of greater or leſſer Velocities or of Proportions between Velocities, but only of longer or ſhorter Lines, and of Proportions between ſuch Lines generated in equal Parts of Time.

XXXI. A Point may be the limit of a Line: A Line may be the limit of a Surface: A Moment may terminate Time. But how can we conceive a Velocity by the help of ſuch Limits? It neceſſarily implies both Time and Space, and cannot be conceived without them. And if the Velocities of naſcent and evaneſcent Quantities, *i. e.* abſtracted from Time and Space, may not be comprehended, how can we comprehend and demonſtrate their Propor-

Proportions? Or conſider their *rationes primæ* and *ultimæ*. For to conſider the Proportion or *Ratio* of Things implies that ſuch Things have Magnitude: That ſuch their Magnitudes may be meaſured, and their Relations to each other known. But, as there is no meaſure of Velocity except Time and Space, the Proportion of Velocities being only compounded of the direct Proportion of the Spaces, and the reciprocal Proportion of the Times; doth it not follow that to talk of inveſtigating, obtaining, and conſidering the Proportions of Velocities, excluſively of Time and Space, is to talk unintelligibly?

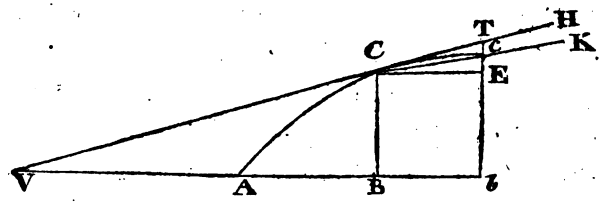
XXXII. But you will ſay that, in the uſe and application of Fluxions, Men do not overſtrain their Faculties to a preciſe Conception of the abovementioned Velocities, Increments, Infiniteſimals, or any other ſuch like Ideas of a Nature ſo nice, ſubtile, and evaneſcent. And therefore you will perhaps maintain, that Problems may be ſolved without thoſe inconceivable Suppoſitions: and that, conſequently, the Doctrine of Fluxions, as to the prac-

tical Part, ſtands clear of all ſuch Difficulties. I anſwer, that if in the uſe or application of this Method, thoſe difficult and obſcure Points are not attended to, they are nevertheleſs ſuppoſed. They are the Foundations on which the Moderns build, the Principles on which they proceed, in ſolving Problems and diſcovering Theorems. It is with the Method of Fluxions as with all other Methods, which preſuppoſe their reſpective Principles and are grounded thereon. Although the Rules may be practiſed by Men who neither attend to, nor perhaps know the Principles. In like manner, therefore, as a Sailor may practically apply certain Rules derived from Aſtronomy and Geometry, the Principles whereof he doth not underſtand: And as any ordinary Man may ſolve divers numerical Queſtions, by the vulgar Rules and Operations of Arithmetic, which he performs and applies without knowing the Reaſons of them: Even ſo it cannot be denied that you may apply the Rules of the fluxionary Method: You may compare and reduce particular Caſes to general Forms: You may operate

operate and compute and ſolve Problems thereby, not only without an actual Attention to, or an actual Knowledge of, the Grounds of that Method and the Principles whereon it depends, and whence it is deduced, but even without having ever conſidered or comprehended them.

XXXIII. But then it muſt be remembred, that in ſuch Caſe although you may paſs for an Artiſt, Computiſt, or Analyſt, yet you may not be juſtly eſteemed a Man of Science and Demonſtration. Nor ſhould any Man, in virtue of being converſant in ſuch obſcure Analytics, imagine his rational Faculties to be more improved than thoſe of other Men, which have been exerciſed in a different manner, and on different Subjects; much leſs erect himſelf into a Judge and an Oracle, concerning Matters that have no ſort of connexion with, or dependence on thoſe Species, Symbols or Signs, in the Management whereof he is ſo converſant and expert. As you, who are a skilful Computiſt or Analyſt, may not therefore be deemed skilful in Anatomy: or *vice verſa*, as a

proceeding is not clear nor your method ſcientific. For inſtance, it is ſuppoſed that *AB* being the Abſciſs, *BC* the Ordinate,



and *VCH* a Tangent of the Curve *AC*, *Bb* or *CE* the Increment of the Abſciſs, *Ec* the Increment of the Ordinate, which produced meets *VH* in the Point *T*, and *Cc* the Increment of the Curve. The right Line *Cc* being produced to *K*, there are formed three ſmall Triangles, the Rectilinear *CEc*, the Mixtilinear *CEc*, and the Rectilinear Triangle *CET*. It is evident theſe three Triangles are different from each other, the Rectilinear *CEc* being leſs than the Mixtilinear *CEc*, whoſe Sides are the three Increments abovementioned, and this ſtill leſs than the Triangle *CET*. It is ſuppoſed that the Ordinate *bc* moves into the place *BC*, ſo that the Point *c* is coincident with the Point *C*; and the right Line *CK*,

and conſequently the Curve Cc, is coincident with the Tangent CH. In which caſe the mixtilinear evaneſcent Triangle CEc will, in its laſt form, be ſimilar to the Triangle $CE\mathcal{T}$: And its evaneſcent Sides CE, Ec, and Cc will be porportional to CE, $E\mathcal{T}$, and $C\mathcal{T}$ the Sides of the Triangle $CE\mathcal{T}$. And therefore it is concluded, that the Fluxions of the Lines AB, BC, and AC, being in the laſt Ratio of their evaneſcent Increments, are proportional to the Sides of the Triangle $CE\mathcal{T}$, or, which is all one, of the Triangle VBC ſimilar thereunto. * It is particularly remarked and inſiſted on by the great Author, that the Points C and c muſt not be diſtant one from another, by any the leaſt Interval whatſoever: But that, in order to find the ultimate Proportions of the Lines CE, Ec, and Cc (*i. e.* the Proportions of the Fluxions or Velocities) expreſſed by the finite Sides of the Triangle VBC, the Points C and c muſt be accurately coincident, *i. e.* one and the ſame. A Point therefore is conſidered as a Triangle, or a Triangle is ſuppoſed to be formed in a Point. Which

* Introduct. ad Quad. Curv.

to

to conceive ſeems quite impoſſible. Yet ſome there are, who, though they ſhrink at all other Myſteries, make no difficulty of their own, who ſtrain at a Gnat and ſwallow a Camel.

XXXV. I know not whether it be worth while to obſerve, that poſſibly ſome Men may hope to operate by Symbols and Suppoſitions, in ſuch ſort as to avoid the uſe of Fluxions, Momentums, and Infiniteſimals after the following manner. Suppoſe x to be one Abſciſs of a Curve, and z another Abſciſs of the ſame Curve. Suppoſe alſo that the reſpective Areas are xxx and zzz: and that $z-x$ is the Increment of the Abſciſs, and $zzz-xxx$ the Increment of the Area, without conſidering how great, or how ſmall thoſe Increments may be. Divide now $zzz-xxx$ by $z-x$ and the Quotient will be $zz+zx+xx$: and, ſuppoſing that z and x are equal, the ſame Quotient will be $3xx$ which in that caſe is the Ordinate, which therefore may be thus obtained independently of Fluxions and Infiniteſimals. But herein is a direct Fallacy: for in

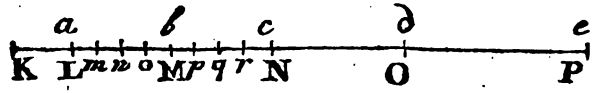
in the firſt place, it is ſuppoſed that the Abſciſſes z and x are unequal, without which ſuppoſition no one ſtep could have been made; and in the ſecond place, it is ſuppoſed they are equal; which is a manifeſt Inconſiſtency, and amounts to the ſame thing that hath been before conſidered *. And there is indeed reaſon to apprehend, that all Attempts for ſetting the abſtruſe and fine Geometry on a right Foundation, and avoiding the Doctrine of Velocities, Momentums, &c. will be found impracticable, till ſuch time as the Object and End of Geometry are better underſtood, than hitherto they ſeem to have been. The great Author of the Method of Fluxions felt this Difficulty, and therefore he gave into thoſe nice Abſtractions and Geometrical Metaphyſics, without which he ſaw nothing could be done on the received Principles; and what in the way of Demonſtration he hath done with them the Reader will judge. It muſt, indeed, be acknowledged, that he uſed Fluxions, like the Scaffold of a building, as things to be laid aſide or got rid of, as ſoon as finite Lines were found proportional

* *Sect.* 15.

nal to them. But then theſe finite Exponents are found by the help of Fluxions. Whatever therefore is got by ſuch Exponents and Proportions is to be aſcribed to Fluxions: which muſt therefore be previouſly underſtood. And what are theſe Fluxions? The Velocities of evaneſcent Increments? And what are theſe ſame evaneſcent Increments? They are neither finite Quantities, nor Quantities infinitely ſmall, nor yet nothing. May we not call them the Ghoſts of departed Quantities?

XXXVI. Men too often impoſe on themſelves and others, as if they conceived and underſtood things expreſſed by Signs, when in truth they have no Idea, ſave only of the very Signs themſelves. And there are ſome gounds to apprehend that this may be the preſent Caſe. The Velocities of evaneſcent or naſcent Quantities are ſuppoſed to be expreſſed, both by finite Lines of a determinate Magnitude, and by Algebraical Notes or Signs: but I ſuſpect that many who, perhaps never having examined the matter, take it for granted,

granted, would upon a narrow ſcrutiny find it impoſſible, to frame any Idea or Notion whatſoever of thoſe Velocities, excluſive of ſuch finite Quantities and Signs.



Suppoſe the Line *KP* deſcribed by the Motion of a Point continually accelerated, and that in equal Particles of time the unequal Part, *KL*, *LM*, *MN*, *NO* &c. are generated. Suppoſe alſo that *a*, *b*, *c*, *d*, *e*, &c. denote the Velocities of the generating Point, at the ſeveral Periods of the Parts or Increments ſo generated. It is eaſy to obſerve that theſe Increments are each proportional to the ſum of the Velocities with which it is deſcribed: That, conſequently, the ſeveral Sums of the Velocities, generated in equal Parts of Time, may be ſet forth by the reſpective Lines *KL*, *LM*, *MN*, &c. generated in the ſame Times: It is likewiſe an eaſy matter to ſay, that the laſt Velocity generated in the firſt Particle of Time, may be expreſſed by the Symbol *a*, the laſt in the ſecond by *b*, the laſt generated in the third by *c*, and ſo on:

on: that a is the Velocity of LM in *ſtatu naſcenti*, and b, c, d, e, &c. are the Velocities of the Increments MN, NO, OP, &c. in their reſpective naſcent eſtates. You may proceed, and conſider theſe Velocities themſelves as flowing or increaſing Quantities, taking the Velocities of the Velocities, and the Velocities of the Velocities of the Velocities, *i. e.* the firſt, ſecond, third, &c. Velocities *ad infinitum*: which ſucceeding Series of Velocities may be thus expreſſed. $a.\ b - a.\ c - 2\,b + a.\ d - 3\,c + 3\,b - a$ &c. which you may call by the names of firſt, ſecond, third, fourth Fluxions. And for an apter Expreſſion you may denote the variable flowing Line KL, KM, KN, &c. by the Letter x; and the firſt Fluxions by $\dot{x}$ the ſecond by $\ddot{x}$, the third by $\dddot{x}$, and ſo on *ad infinitum*.

XXXVII. Nothing is eaſier than to aſſign Names, Signs, or Expreſſions to theſe Fluxions, and it is not difficult to compute and operate by means of ſuch Signs. But it will be found much more difficult, to omit the Signs and yet retain in our Minds

Minds the things, which we ſuppoſe to be ſignified by them. To conſider the Exponents, whether Geometrical, or Algebraical, or Fluxionary, is no difficult Matter. But to form a preciſe Idea of a third Velocity for inſtance, in itſelf and by itſelf, *Hoc opus, hic labor.* Nor indeed is it an eaſy point, to form a clear and diſtinct Idea of any Velocity at all, excluſive of and preſcinding from all length of time and ſpace; as alſo from all Notes, Signs or Symbols whatſoever. This, if I may be allowed to judge of others by myſelf, is impoſſible. To me it ſeems evident, that Meaſures and Signs are abſolutely neceſſary, in order to conceive or reaſon about Velocities; and that, conſequently, when we think to conceive the Velocities, ſimply and in themſelves, we are deluded by vain Abſtractions.

XXXVIII. It may perhaps be thought by ſome an eaſier Method of conceiving Fluxions, to ſuppoſe them the Velocities wherewith the infiniteſimal Differences are generated. So that the firſt Fluxions ſhall be the Velocities of the firſt Differences, the

the ſecond the Velocities of the ſecond Differences, the third Fluxions the Velocities of the third Differences, and ſo on *ad infinitum*. But not to mention the inſurmountable difficulty of admitting or conceiving Infiniteſimals, and Infiniteſimals of Infiniteſimals, *&c.* it is evident that this notion of Fluxions would not conſiſt with the great Author's view; who held that the minuteſt Quantity ought not to be neglected, that therefore the Doctrine of Infiniteſimal Differences was not to be admitted in Geometry, and who plainly appears to have introduced the uſe of Velocities or Fluxions, on purpoſe to exclude or do without them.

XXXIX. To others it may poſſibly ſeem, that we ſhould form a juſter Idea of Fluxions, by aſſuming the finite unequal iſochronal Increments KL, LM, MN, *&c.* and conſidering them in *ſtatu naſcenti*, alſo their Increments in *ſtatu naſcenti*, and the naſcent Increments of thoſe Increments, and ſo on, ſuppoſing the firſt naſcent Increments to be proportional to the firſt Fluxions or Velocities, the naſcent Increments of thoſe Increments to be proportional

tional to the ſecond Fluxions, the third naſcent Increments to be proportional to the third Fluxions, and ſo onwards. And, as the firſt Fluxions are the Velocities of the firſt naſcent Increments, ſo the ſecond Fluxions may be conceived to be the Velocities of the ſecond naſcent Increments, rather than the Velocities of Velocities. By which means the Analogy of Fluxions may ſeem better preſerved, and the notion rendered more intelligible.

XL. And indeed it ſhould ſeem, that in the way of obtaining the ſecond or third Fluxion of an Equation, the given Fluxions were conſidered rather as Increments than Velocities. But the conſidering them ſometimes in one Senſe, ſometimes in another, one while in themſelves, another in their Exponents, ſeems to have occaſioned no ſmall ſhare of that Confuſion and Obſcurity, which is found in the Doctrine of Fluxions. It may ſeem therefore, that the Notion might be ſtill mended, and that inſtead of Fluxions of Fluxions, or Fluxions of Fluxions of Fluxions, and inſtead of ſecond, third, or fourth, &c.

Fluxions

Fluxions of a given Quantity, it might be more conſiſtent and leſs liable to exception to ſay, the Fluxion of the firſt naſcent Increment, *i. e.* the ſecond Fluxion; the Fluxion of the ſecond naſcent Increment, *i. e.* the third Fluxion; the Fluxion of the third naſcent Increment, *i. e.* the fourth Fluxion, which Fluxions are conceived reſpectively proportional, each to the naſcent Principle of the Increment ſucceeding that whereof it is the Fluxion.

XLI. For the more diſtinct Conception of all which it may be conſidered, that if the finite Increment $L\,M$* be divided into the Iſochronal Parts $L\,m$, $m\,n$, $n\,o$, $o\,M$; and the Increment $M\,N$ into the Parts $M\,p$, $p\,q$, $q\,r$, $r\,N$ Iſochronal to the former; as the whole Increment $L\,M$, $M\,N$ are proportional to the Sums of their deſcribing Velocities, even ſo the homologous Particles $L\,m$, $M\,p$ are alſo proportional to the reſpective accelerated Velocities with which they are deſcribed. And as the Velocity with which $M\,p$ is generated, exceeds that with which $L\,m$ was generated, even ſo the Particle $M\,p$ ex-

* *See the foregoing Scheme in Sect.* 36.

ceeds the Particle $L\,m$. And in general, as the Iſochronal Velocities deſcribing the Particles of $M\,N$ exceed the Iſochronal Velocities deſcribing the Particles of $L\,M$, even ſo the Particles of the former exceed the correſpondent Particles of the latter. And this will hold, be the ſaid Particles ever ſo ſmall. $M\,N$ therefore will exceed $L\,N$ if they are both taken in their naſcent States: and that exceſs will be proportional to the exceſs of the Velocity b above the Velocity a. Hence we may ſee that this laſt account of Fluxions comes, in the upſhot, to the ſame thing with the firſt *.

XLII. But notwithſtanding what hath been ſaid it muſt ſtill be acknowledged, that the finite Particles $L\,m$ or $M\,p$, though taken ever ſo ſmall, are not proportional to the Velocities a and b; but each to a Series of Velocities changing every Moment, or which is the ſame thing, to an accelerated Velocity, by which it is generated, during a certain minute Particle of time: That the naſcent beginnings or evaneſcent endings of finite Quantities,

* Sect. 36. which

which are produced in Moments or infinitely ſmall Parts of Time, are alone proportional to given Velocities: That, therefore, in order to conceive the firſt Fluxions, we muſt conceive Time divided into Moments, Increments generated in thoſe Moments, and Velocities proportional to thoſe Increments: That in order to conceive ſecond and third Fluxions, we muſt ſuppoſe that the naſcent Principles or momentaneous Increments have themſelves alſo other momentaneous Increments, which are proportional to their reſpective generating Velocities: That the Velocities of theſe ſecond momentaneous Increments are ſecond Fluxions: thoſe of their naſcent momentaneous Increments third Fluxions. And ſo on *ad infinitum*.

XLIII. By ſubducting the Increment generated in the firſt Moment from that generated in the ſecond, we get the Increment of an Increment. And by ſubducting the Velocity generating in the firſt Moment from that generating in the ſecond, we get the Fluxion of a Fluxion. In like manner, by ſubducting the Difference of

the Velocities generating in the two firſt Moments, from the exceſs of the Velocity in the third above that in the ſecond Moment, we obtain the third Fluxion. And after the ſame Analogy we may proceed to fourth, fifth, ſixth Fluxions, *&c.* And if we call the Velocities of the firſt, ſecond, third, fourth Moments *a*, *b*. *c*, *d*, the Series of Fluxions will be as above, $a.\ b - a.\ c - 2\ b + a.\ d - 3\ c + 3\ b - a.$ *ad infinitum*, *i. e.* $\dot{x}.\ \ddot{x}.\ \dddot{x}.\ \ddddot{x}.$ *ad infinitum.*

XLIV. Thus Fluxions may be conſidered in ſundry Lights and Shapes, which ſeem all equally difficult to conceive. And indeed, as it is impoſſible to conceive Velocity without time or ſpace, without either finite length or finite Duration †, it muſt ſeem above the powers of Men to comprehend even the firſt Fluxions. And if the firſt are incomprehenſible, what ſhall we ſay of the ſecond and third Fluxions, *&c?* He who can conceive the beginning of a beginning, or the end of an end, ſomewhat before the firſt or after

† *Sect.* 31.

the

the laſt, may be perhaps ſharpſighted enough to conceive theſe things. But moſt Men will, I believe, find it impoſſible to underſtand them in any ſenſe whatever.

XLV. One would think that Men could not ſpeak too exactly on ſo nice a Subject. And yet, as was before hinted, we may often obſerve that the Exponents of Fluxions or Notes repreſenting Fluxions are confounded with the Fluxions themſelves. Is not this the Caſe, when juſt after the Fluxions of flowing Quantities were ſaid to be the Celerities of their increaſing, and the ſecond Fluxions to be the mutations of the firſt Fluxions or Celerities, we are told that $\ddot{z}. \dot{z}. z. \dot{x}. \ddot{x}. \dot{x}.$ * repreſents a Series of Quantities whereof each ſubſequent Quantity is the Fluxion of the preceding; and each foregoing is a fluent Quantity having the following one for its Fluxion?

XLVI. Divers Series of Quantities and Expreſſions, Geometrical and Algebraical,

* De Quadratura Curvarum.

may be eaſily conceived, in Lines, in Surfaces, in Species, to be continued without end or limit. But it will not be found ſo eaſy to conceive a Series, either of mere Velocities or of mere naſcent Increments, diſtinct therefrom and correſponding thereunto. Some perhaps may be led to think the Author intended a Series of Ordinates, wherein each Ordinate was the Fluxion of the preceding and Fluent of the following, *i. e.* that the Fluxion of one Ordinate was itſelf the Ordinate of another Curve; and the Fluxion of this laſt Ordinate was the Ordinate of yet another Curve; and ſo on *ad infinitum*. But who can conceive how the Fluxion (whether Velocity or naſcent Increment) of an Ordinate ſhould be itſelf an Ordinate? Or more than that each preceding Quantity or Fluent is related to its Subſequent or Fluxion, as the Area of a curvilinear Figure to its Ordinate; agreeably to what the Author remarks, that each preceding Quantity in ſuch Series is as the Area of a curvilinear Figure, whereof the Abſciſs is x, and the Ordinate is the following Quantity.

XLVII. Upon

XLVII. Upon the whole it appears that the Celerities are diſmiſſed, and inſtead thereof Areas and Ordinates are introduced. But however expedient ſuch Analogies or ſuch Expreſſions may be found for facilitating the modern Quadratures, yet we ſhall not find any light given us thereby into the original real nature of Fluxions; or that we are enabled to frame from thence juſt Ideas of Fluxions conſidered in themſelves. In all this the general ultimate drift of the Author is very clear, but his Principles are obſcure. But perhaps thoſe Theories of the great Author are not minutely conſidered or canvaſſed by his Diſciples; who ſeem eager, as was before hinted, rather to operate than to know, rather to apply his Rules and his Forms, than to underſtand his Principles and enter into his Notions. It is nevertheleſs certain, that in order to follow him in his Quadratures, they muſt find Fluents from Fluxions; and in order to this, they muſt know to find Fluxions from Fluents; and in order to find Fluxions, they muſt firſt know what Fluxions are. Otherwiſe they proceed without Clearneſs and without

Science. Thus the direct Method precedes the inverſe, and the knowledge of the Principles is ſuppoſed in both. But as for operating according to Rules, and by the help of general Forms, whereof the original Principles and Reaſons are not underſtood, this is to be eſteemed merely technical. Be the Principles therefore ever ſo abſtruſe and metaphyſical, they muſt be ſtudied by whoever would comprehend the Doctrine of Fluxions. Nor can any Geometrician have a right to apply the Rules of the great Author, without firſt conſidering his metaphyſical Notions whence they were derived. Theſe, how neceſſary ſoever in order to Science, which can never be attained without a preciſe, clear, and accurate Conception of the Principles, are nevertheleſs by ſeveral careleſly paſſed over; while the Expreſſions alone are dwelt on and conſidered and treated with great Skill and Management, thence to obtain other Expreſſions by Methods, ſuſpicious and indirect (to ſay the leaſt) if conſidered in themſelves, however recommended by Induction and Authority;

Authority; two Motives which are acknowledged ſufficient to beget a rational Faith and moral Perſuaſion, but nothing higher.

XLVIII. You may poſſibly hope to evade the Force of all that hath been ſaid, and to ſcreen falſe Principles and inconſiſtent Reaſonings, by a general Pretence that theſe Objections and Remarks are Metaphyſical. But this is a vain Pretence. For the plain Senſe and Truth of what is advanced in the foregoing Remarks, I appeal to the Underſtanding of every unprejudiced intelligent Reader. To the ſame I appeal, whether the Points remarked upon are not moſt incomprehenſible Metaphyſics. And Metaphyſics not of mine, but your own. I would not be underſtood to infer, that your Notions are falſe or vain becauſe they are Metaphyſical. Nothing is either true or falſe for that Reaſon. Whether a Point be called Metaphyſical or no avails little. The Queſtion is whether it be clear or obſcure, right or wrong, well or ill-deduced?

XLIX. Al-

XLIX. Although momentaneous Increments, naſcent and evaneſcent Quantities, Fluxions and Infiniteſimals of all Degrees, are in truth ſuch ſhadowy Entities, ſo difficult to imagine or conceive diſtinctly, that (to ſay the leaſt) they cannot be admitted as Principles or Objects of clear and accurate Science: and although this obſcurity and incomprehenſibility of your Metaphyſics had been a lone ſufficient, to allay your Pretenſions to Evidence; yet it hath, if I miſtake not, been further ſhewn, that your Inferences are no more juſt than your Conceptions are clear, and that your Logics are as exceptionable as your Metaphyſics. It ſhould ſeem therefore upon the whole, that your Concluſions are not attained by juſt Reaſoning from clear Principles; conſequently that the Employment of modern Analyſts, however uſeful in mathematical Calculations, and Conſtructions, doth not habituate and qualify the Mind to apprehend clearly and infer juſtly; and conſequently, that you have no right in Virtue of ſuch Habits, to dictate out of your proper Sphere, beyond which

your

your Judgment is to paſs for no more than that of other Men.

L. Of a long time I have ſuſpected, that theſe modern Analytics were not ſcientifical, and gave ſome Hints thereof to the Public about twenty five Years ago. Since which time, I have been diverted by other Occupations, and imagined I might employ myſelf better than in deducing and laying together my Thoughts on ſo nice a Subject. And though of late I have been called upon to make good my Suggeſtions; yet as the Perſon, who made this Call, doth not appear to think maturely enough to underſtand, either thoſe Metaphyſics which he would refute, or Mathematics which he would patronize, I ſhould have ſpared myſelf the trouble of writing for his Conviction. Nor ſhould I now have troubled you or myſelf with this Addreſs, after ſo long an Intermiſſion of theſe Studies; were it not to prevent, ſo far as I am able, your impoſing on yourſelf and others in Matters of much higher Moment and Concern. And to the end that you may more clearly comprehend the

the Force and Deſign of the foregoing Remarks, and purſue them ſtill further in your own Meditations, I ſhall ſubjoin the following Queries.

Query 1. Whether the Object of Geometry be not the Proportions of aſſignable Extenſions? And whether, there be any need of conſidering Quantities either infinitely great ot infinitely ſmall?

Qu. 2. Whether the end of Geometry be not to meaſure aſſignable finite Extenſion? And whether this practical View did not firſt put Men on the ſtudy of Geometry?

Qu. 3. Whether the miſtaking the Object and End of Geometry hath not created needleſs Difficulties, and wrong Purſuits in that Science?

Qu. 4. Whether Men may properly be ſaid to proceed in a ſcientific Method, without clearly conceiving the Object they are converſant about, the End propoſed, and the Method by which it is purſued?

Qu. 5. Whe-

Qu. 5. Whether it doth not ſuffice, that every aſſignable number of Parts may be contained in ſome aſſignable Magnitude? And whether it be not unneceſſary, as well as abſurd, to ſuppoſe that finite Extenſion is infinitely diviſible?

Qu. 6. Whether the Diagrams in a Geometrical Demonſtration are not to be conſidered, as Signs of all poſſible finite Figures, of all ſenſible and imaginable Extenſions or Magnitudes of the ſame kind?

Qu. 7. Whether it be poſſible to free Geometry from inſuperable Difficulties and Abſurdities, ſo long as either the abſtract general Idea of Extenſion, or abſolute external Extenſion be ſuppoſed its true Object?

Qu. 8. Whether the Notions of abſolute Time, abſolute Place, and abſolute Motion be not moſt abſtractedly Metaphyſical? Whether it be poſſible for us to meaſure, compute, or know them?

Qu. 9. Whether Mathematicians do not engage themſelves in Diſputes and Paradoxes,

doxes, concerning what they neither do nor can conceive? And whether the Doctrine of Forces be not a ſufficient Proof of this?*

Qu. 10. Whether in Geometry it may not ſuffice to conſider aſſignable finite Magnitude, without concerning ourſelves with Infinity? And whether it would not be righter to meaſure large Polygons having finite Sides, inſtead of Curves, than to ſuppoſe Curves are Polygons of infiniteſimal Sides, a Suppoſition neither true nor conceivable?

Qu. 11. Whether many Points, which are not readily aſſented to, are not nevertheleſs true? And whether thoſe in the two following Queries may not be of that Number?

Qu. 12. Whether it be poſſible, that we ſhould have had an Idea or Notion of Extenſion prior to Motion? Or whether if a Man had never perceived Motion, he would ever have known or conceived one thing to be diſtant from another?

* See a *Latin* Treatiſe *De Motu*, publiſhed at *London*, In the Year 1721.

Qu. 13. Whe-

Qu. 13. Whether Geometrical Quantity hath coexiſtent Parts? And whether all Quantity be not in a flux as well as Time and Motion?

Qu. 14. Whether Extenſion can be ſuppoſed an Attribute of a Being immutable and eternal?

Qu. 15. Whether to decline examining the Principles, and unravelling the Methods uſed in Mathematics, would not ſhew a bigotry in Mathematicians?

Qu. 16. Whether certain Maxims do not paſs current among Analyſts, which are ſhocking to good Senſe? And whether the common Aſſumption that a finite Quantity divided by nothing is infinite be not of this Number?

Qu. 17. Whether the conſidering Geometrical Diagrams abſolutely or in themſelves, rather than as Repreſentatives of all aſſignable Magnitudes or Figures of the ſame kind, be not a principal Cauſe of the ſuppoſing finite Extenſion infinitely diviſible;

diviſible; and of all the Difficulties and Abſurdities conſequent thereupon?

Qu. 18. Whether from Geometrical Propoſitions being general, and the Lines in Diagrams being therefore general Subſtitutes or Repreſentatives, it doth not follow that we may not limit or conſider the number of Parts, into which ſuch particular Lines are diviſible?

Qu. 19. When it is ſaid or implied, that ſuch a certain Line, delineated on Paper contains more than any aſſignable number of Parts, whether any more in truth ought to be underſtood, than that it is a Sign indifferently repreſenting all finite Lines, be they ever ſo great. In which relative Capacity it contains, *i. e.* ſtands for more than any aſſignable number of Parts? And whether it be not altogether abſurd to ſuppoſe a finite Line, conſidered in itſelf or in its own poſitive Nature, ſhould contain an infinite number of Parts.

Qu. 20. Whether all Arguments for the infinite Diviſibility of finite Extenſion

do

do not ſuppoſe and imply, either general abſtract Ideas or abſolute external Extenſion to be the Object of Geometry? And, therefore, whether, along with thoſe Suppoſitions, ſuch Arguments alſo do not ceaſe and vaniſh?

Qu. 21. Whether the ſuppoſed infinite Diviſibility of finite Extenſion hath not been a Snare to Mathematicians, and a Thorn in their Sides? And whether a Quantity infinitely diminiſhed and a Quantity infinitely ſmall are not the ſame thing?

Qu. 22. Whether it be neceſſary to conſider Velocities of naſcent or evaneſcent Quantitites, or Moments, or Infiniteſimals? And whether the introducing of Things ſo inconceivable be not a reproach to Mathematics?

Qu. 23. Whether Inconſiſtencies can be Truths? Whether Points repugnant and abſurd are to be admitted upon any Subject, or in any Science? And whether the uſe of Infinites ought to be allowed, as a

ſufficient Pretext and Apology, for the admitting of ſuch Points in Geometry?

Qu. 24. Whether a Quantity be not properly ſaid to be known, when we know its Proportion to given Quantities? And whether this Proportion can be known, but by Expreſſions or Exponents, either Geometrical, Algebraical, or Arithmetical? And whether Expreſſions in Lines or Species can be uſeful but ſo far forth as they are reducible to Numbers?

Qu. 25. Whether the finding out proper Expreſſions or Notations of Quantity be not the moſt general Character and Tendency of the Mathematics? And Arithmetical Operation that which limits and defines their Uſe?

Qu. 26. Whether Mathematicians have ſufficiently conſidered the Analogy and Uſe of Signs? And how far the ſpecific limited Nature of things correſponds thereto?

Qu. 27. Whether becauſe, in ſtating a general Caſe of pure Algebra, we are at full

full liberty to make a Character denote either a poſitive or a negative Quantity, or nothing at all, we may therefore in a geometrical Caſe, limited by Hypotheſes and Reaſonings from particular Properties and Relations of Figures, claim the ſame Licence?

Qu. 28. Whether the Shifting of the Hypotheſis, or (as we may call it) the *fallacia Suppoſitionis* be not a Sophiſm, that far and wide infects the modern Reaſonings, both in the mechanical Philoſophy and in the abſtruſe and fine Geometry?

Qu. 29. Whether we can form an Idea or Notion of Velocity diſtinct from and excluſive of its Meaſures, as we can of Heat diſtinct from and excluſive of the Degrees on the Thermometer, by which it is meaſured? And whether this be not ſuppoſed in the Reaſonings of modern Analyſts?

Qu. 30. Whether Motion can be conceived in a Point of Space? and if Mo-

tion cannot, whether Velocity can? And if not, whether a firſt or laſt Velocity can be conceived in a mere Limit, either initial or final, of the deſcribed Space?

Qu. 31. Whether there are no Increments, whether there can be any *Ratio* of Increments? Whether Nothings can be conſidered as proportional to real Quantities? Or whether to talk of their Proportions be not to talk Nonſenſe? Alſo in what Senſe we are to underſtand the Proportion of a Surface to a Line, of an Area to an Ordinate? And whether Species or Numbers, though properly expreſſing Quantities which are not homogeneous, may yet be ſaid to expreſs their Proportion to each other.

Qu. 32. Whether if all aſſignable Circles may be ſquared, the Circle is not, to all intents and purpoſes, ſquared as well as the Parabola? Or whether a parabolical Area can in fact be meaſured more accurately than a Circular?

Qu. 33. Whe-

Qu. 33. Whether it would not be righter to approximate fairly, than to endeavour at Accuracy by Sophiſms?

Qu. 34. Whether it would not be more decent to proceed by Trials and Inductions, than to pretend to demonſtrate by falſe Principles?

Qu. 35. Whether there be not a way of arriving at Truth, although the Principles are not ſcientific, nor the Reaſoning juſt? And whether ſuch a way ought to be called a Knack or a Science?

Qu. 36. Whether there can be Science of the Concluſion, where there is not Science of the Principles? And whether a Man can have Science of the Principles, without underſtanding them? And therefore whether the Mathematicians of the preſent Age act like Men of Science, in taking ſo much more pains to apply their Principles, than to underſtand them?

Qu. 37. Whether the greateſt Genius wreſtling with falſe Principles may not be foiled? And whether accurate Quadratures can be obtained without new *Poſtulata* or Aſſumptions? And if not, whether thoſe which are intelligible and conſiſtent ought not to be preferred to the contrary? *See* Sect. XXVIII *and* XXIX.

Qu. 38. Whether tedious Calculations in Algebra and Fluxions be the likelieſt Method to improve the Mind? And whether Mens being accuſtomed to reaſon altogether about Mathematical Signs and Figures, doth not make them at a loſs how to reaſon without them?

Qu. 39. Whether, whatever readineſs Analyſts acquire in ſtating a Problem, or finding apt Expreſſions for Mathematical Quantities, the ſame doth neceſſarily infer a proportionable ability in conceiving and expreſſing other Matters?

Qu. 40. Whether it be not a general Caſe or Rule, that one and the ſame Coefficient dividing equal Products gives equal

equal Quotients? And yet whether ſuch Coefficient can be interpreted by a or nothing? Or whether any one will ſay, that if the Equation $2 \times o = 5 \times o$, be divided by o, the Quotients on both Sides are equal? Whether therefore a Caſe may not be general with reſpect to all Quantities, and yet not extend to Nothings, or include the Caſe of Nothing? And whether the bringing Nothing under the Notion of Quantity may not have betrayed Men into falſe Reaſoning?

Qu. 41. Whether in the moſt general Reaſonings about Equalities and Proportions, Men may not demonſtrate as well as in Geometry? Whether in ſuch Demonſtrations, they are not obliged to the ſame ſtrict Reaſoning as in Geometry? And whether ſuch their Reaſonings are not deduced from the ſame Axioms with thoſe in Geometry? Whether therefore Algebra be not as truly a Science as Geometry?

Qu. 42. Whether Men may not reaſon in Species as well as in Words? Whether

the ſame Rules of Logic do not obtain in both Caſes? And whether we have not a right to expect and demand the ſame Evidence in both?

Qu. 43. Whether an Algebraiſt, Fluxioniſt, Geometrician or Demonſtrator of any kind can expect indulgence for obſcure Principles or incorrect Reaſonings? And whether an Algebraical Note or Species can at the end of a Proceſs be interpreted in a Senſe, which could not have been ſubſtituted for it at the beginning? Or whether any particular Suppoſition can come under a general Caſe which doth not conſiſt with the reaſoning thereof?

Qu. 44. Whether the Difference between a mere Computer and a Man of Science be not, that the one computes on Principles clearly conceived, and by Rules evidently demonſtrated, whereas the other doth not?

Qu. 45. Whether, although Geometry be a Science, and Algebra allowed to be a Science, and the Analytical a moſt excellent

lent Method, in the Application nevertheleſs of the Analyſis to Geometry, Men may not have admitted falſe Principles and wrong Methods of Reaſoning?

Qu. 46. Whether although Algebraical Reaſonings are admitted to be ever ſo juſt, when confined to Signs or Species as general Repreſentatives of Quantity, you may not nevertheleſs fall into Error, if, when you limit them to ſtand for particular things, you do not limit yourſelf to reaſon conſiſtently with the Nature of ſuch particular things? And whether ſuch Error ought to be imputed to pure Algebra?

Qu. 47. Whether the View of modern Mathematicians doth not rather ſeem to be the coming at an Expreſſion by Artifice, than the coming at Science by Demonſtration.

Qu. 48. Whether there may not be ſound Metaphyſics as well as unſound? Sound as well as unſound Logic? And whether the modern Analytics may not be brought under one of theſe Denominations, and which?

Qu. 49. Whe-

Qu. 49. Whether there be not really a *Philoſophia prima*, a certain tranſcendental Science ſuperior to and more extenſive than Mathematics, which it might behove our modern Analyſts rather to learn than deſpiſe?

Qu. 50. Whether ever ſince the recovery of Mathematical Learning, there have not been perpetual Diſputes and Controverſies among the Mathematicians? And whether this doth not diſparage the Evidence of their Methods?

Qu. 51. Whether any thing but Metaphyſics and Logic can open the Eyes of Mathematicians and extricate them out of their Difficulties?

Qu. 52. Whether upon the received Principles a Quantity can by any Diviſion or Subdiviſion, though carried ever ſo far, be reduced to nothing?

Qu. 53. Whether if the end of Geometry be Practice, and this Practice be Meaſuring, and we meaſure only aſſignable Ex-

Extenſions, it will not follow that unlimited Approximations compleatly anſwer the Intention of Geometry?

Qu. 54. Whether the ſame things which are now done by Infinites may not be done by finite Quantities? And whether this would not be a great Relief to the Imaginations and Underſtandings of Mathematical Men?

Qu. 55. Whether thoſe Philomathematical Phyſicians, Anatomiſts, and Dealers in the Animal Oeconomy, who admit the Doctrine of Fluxions with an implicit Faith, can with a good grace inſult other Men for believing what they do not comprehend?

Qu. 56. Whether the Corpuſcularian, Experimental, and Mathematical Philoſophy ſo much cultivated in the laſt Age, hath not too much engroſſed Mens Attention; ſome part whereof it might have uſefully employed?

Qu. 57. Whe-

Qu. 57. Whether from this, and other concurring Cauſes, the Minds of ſpeculative Men have not been born downward, to the debaſing and ſtupifying of the higher Faculties? And whether we may not hence account for that prevailing Narrowneſs and Bigotry among many who paſs for Men of Science, their Incapacity for things Moral, Intellectual, or Theological, their Proneneſs to meaſure all Truths by Senſe and Experience of animal Life?

Qu. 58. Whether it be really an Effect of Thinking, that the ſame Men admire the great Author for his Fluxions, and deride him for his Religion?

Qu. 59. If certain Philoſophical Virtuoſi of the preſent Age have no Religion, whether it can be ſaid to be for want of Faith?

Qu. 60. Whether it be not a juſter way of reaſoning, to recommend Points of Faith from their Effects, than to demonſtrate Mathematical Principles by their Concluſions?

Qu. 61. Whe-

Qu. 61. Whether it be not leſs exceptionable to admit Points above Reaſon than contrary to Reaſon?

Qu. 62. Whether Myſteries may not with better right be allowed of in Divine Faith, than in Humane Science?

Qu. 63. Whether ſuch Mathematicians as cry out againſt Myſteries, have ever examined their own Principles?

Qu. 64. Whether Mathematicians, who are ſo delicate in religious Points, are ſtrictly ſcrupulous in their own Science? Whether they do not ſubmit to Authority, take things upon Truſt, believe Points inconceivable? Whether they have not their Myſteries, and what is more, their Repugnancies and Contradictions?

Qu. 65. Whether it might not become Men, who are puzzled and perplexed about their own Principles, to judge warily, candidly, and modeſtly concerning other Matters?

Qu. 66. Whe-

Qu. 66. Whether the modern Analytics do not furniſh a ſtrong *argumentum ad hominem*, againſt the Philomathematical Infidels of theſe Times?

Qu. 67. Whether it follows from the abovementioned Remarks, that accurate and juſt Reaſoning is the peculiar Character of the preſent Age? And whether the modern Growth of Infidelity can be aſcribed to a Diſtinction ſo truly valuable?

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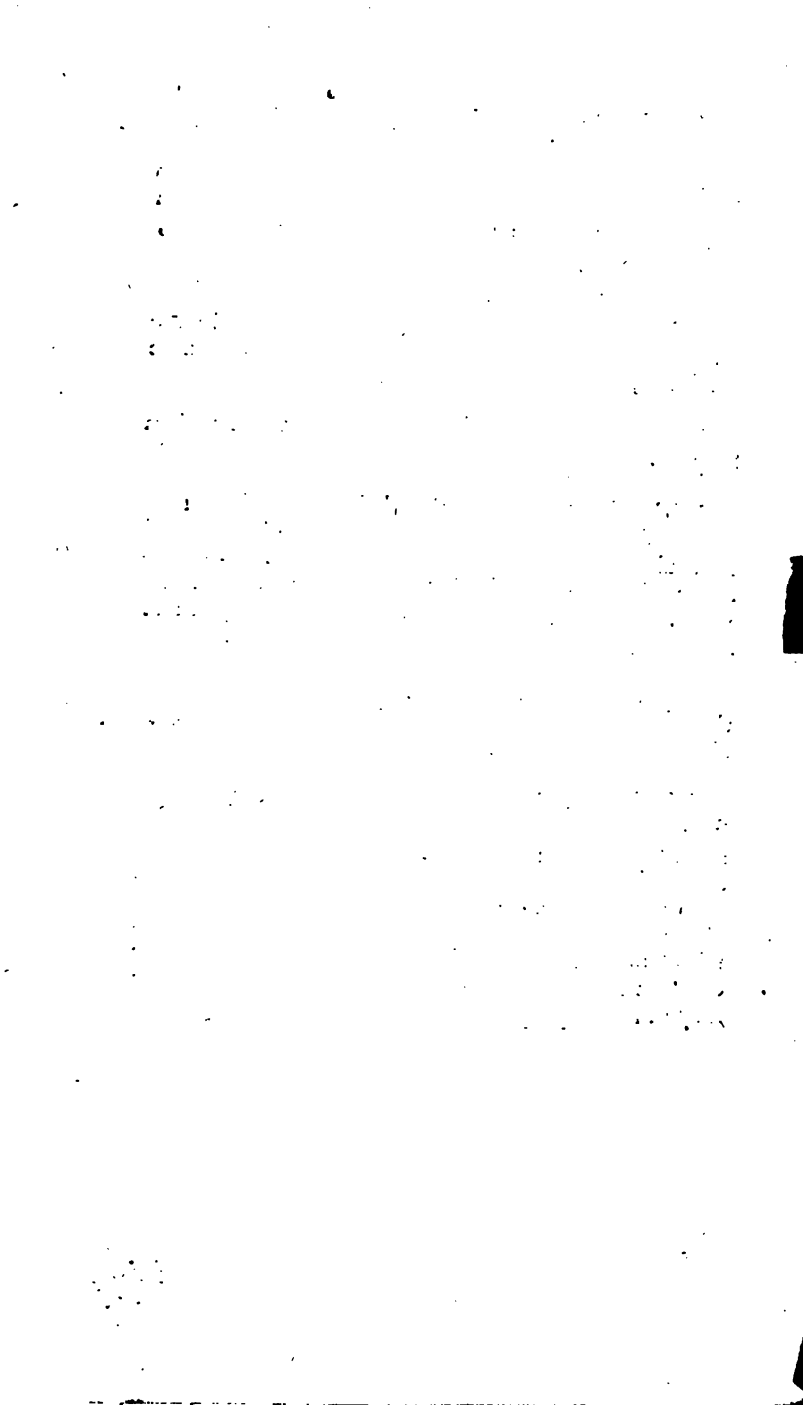

THE

THEORY

OF

VISION,

OR

VISUAL LANGUAGE,

SHEWING

The Immediate PRESENCE and PROVIDENCE of a DEITY,

VINDICATED *and* EXPLAINED.

By the AUTHOR of
ALCIPHRON, *or*, *The* MINUTE PHILOSOPHER.

Acts xvii. 28.
In him we live, and move, and have our being.

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THE THEORY *of* VISION, VINDICATED *and* EXPLAINED:

In Anſwer to an anonymous Writer.

I. AN ill State of Health, which permits me to apply myſelf but ſeldom and by ſhort Intervals to any kind of Studies, muſt be my Apology, Sir, for not anſwering your Letter * ſooner. This would have altogether excuſed me from a Controverſy upon Points either perſonal or purely ſpeculative, or from entring the Liſts with Declaimers, whom I leave to the Triumph of their own Paſſions. And indeed, to one of this Character, who contradicts himſelf and miſrepreſents me, what Anſwer can be made more than to deſire his Readers not to take his Word for what I ſay, but to uſe their own Eyes, read, examine, and judge for themſelves? And to their common Senſe I appeal. For ſuch a Writer, ſuch an Anſwer may ſuffice. But Argument, I allow, hath a right to be conſidered,

* *Publiſhed in the* Daily Poſt-Boy *of* September *the Ninth*, 1732, *which ſee in the* Appendix.

and, where it doth not convince, to be oppoſed with Reaſon. And being perſuaded that the *Theory of Viſion*, annexed to the *Minute Philoſopher*, affords to thinking Men, a new and unanſwerable Proof of the Exiſtence and immediate Operation of God, and the conſtant condeſcending Care of his Providence, I think my ſelf concerned, as well as I am able, to defend and explain it, at a time wherein Atheiſm hath made a greater Progreſs than ſome are willing to own, or others to believe.

II. He who conſiders, that the preſent avowed Enemies of Chriſtianity begun their Attacks againſt it, under the ſpecious Pretext of defending the Chriſtian Church and its Rights, when he obſerves the ſame Men pleading for Natural Religion, will be tempted to ſuſpect their Views, and judge of their Sincerity in one Caſe from what they have ſhewed in the other. Certainly the Notion of a watchful, active, intelligent, free Spirit, with whom we have to do, and in whom we live, and move, and have our Being, is not the moſt prevailing in the Books and Converſation, even of thoſe who are called Deiſts. Beſides, as their Schemes take effect, we may plainly perceive moral

ſal Virtue and the Religion of Nature to decay, and ſee, both from Reaſon and Experience, that the deſtroying Revealed Religion, muſt end in Atheiſm or Idolatry. It muſt be owned, many Minute Philoſophers would not like at preſent to be accounted Atheiſts. But how many, twenty Years ago, would have been affronted to be thought Infidels, who would now be much more affronted to be thought Chriſtians! As it would be unjuſt to charge thoſe with Atheiſm who are not really tainted with it; ſo it will be allowed very uncharitable and imprudent, to overlook it in thoſe who are, and ſuffer ſuch Men, under ſpecious Pretexts, to ſpread their Principles, and in the Event, to play the ſame Game with Natural Religion that they have done with Revealed.

III. It muſt, without queſtion, ſhock ſome innocent Admirers of a certain plauſible Pretender to Deiſm and Natural Religion, if a Man ſhould ſay, there are ſtrong Signatures of Atheiſm and Irreligion in every Senſe, natural as well as revealed, to be found even in that admired Writer: And yet, to introduce Taſte inſtead of Duty, to make Man a neceſſary Agent, to deride a future Judg-

Years. Such is the ill effect of untoward Defences and Explanations of our Faith; and ſuch advantage do incautious Friends give its Enemies. If there be any modern well-meaning Writer, who (perhaps from not having conſidered the fifth Book of *Euclid*) writes much of Analogy without underſtanding it, and thereby hath ſlipped his Foot into this Snare, I wiſh him to ſlip it back again, and inſtead of cauſing Scandal to good Men, and Triumph to Atheiſts, diſcreetly explain away his firſt Senſe; and return to ſpeak of God and his Attributes in the Style of other Chriſtians, allowing that Knowledge and Wiſdom do, in the proper Senſe of the Words, belong to God, and that we have ſome Notion though infinitely inadequate of thoſe divine Attributes, yet ſtill more than a Man blind from his Birth can have of Light and Colours.] But to return, if I ſee it in their Writings, if they own it in their Converſation, if their Ideas imply it, if their Ends are not anſwered but by ſuppoſing it, if their leading Author hath pretended to demonſtrate Atheiſm, but thought fit to conceal his Demonſtration from the Public; if this was known in their Clubs, and yet that Author was nevertheleſs followed, and repreſented to the World as a Believer of Natural Religion;

gion; if theſe things are ſo, (and I know them to be ſo) ſurely what the Favourers of their Schemes would palliate, it is the Duty of others to diſplay and refute.

VII. And, although the Characters of Divinity are large and legible, throughout the whole Creation, to Men of plain Senſe and common Underſtanding; yet it muſt be conſidered, that we have other Adverſaries to oppoſe, other Proſelytes to make, Men prejudiced to falſe Syſtems and Proof againſt vulgar Arguments, who muſt be dealt with on a different foot. Conceited, metaphyſical, diſputing Men muſt be paid in another coin; we muſt ſhew that Truth and Reaſon in all Shapes are equally againſt them, except we reſolve to give them up, what they are very fond of being thought to engroſs, all Pretenſions to Philoſophy, Science, and Speculation.

VIII. Mean while thus much is evident: Thoſe good Men, who ſhall not care to employ their Thoughts on this *Theory of Viſion*, have no reaſon to find fault. They are juſt where they were, being left in full Poſſeſſion of all other Arguments for a God, none of which are weakened by this. And as for thoſe who ſhall

ſhall be at the pains to examine and conſider this Subject, it is hoped they may be pleaſed to find, in an Age wherein ſo many Schemes of Atheiſm are reſtored or invented, a new Argument of a ſingular Nature in proof of the immediate Care and Providence of a God, preſent to our Minds, and directing our Actions: As theſe Conſiderations convince me, that I cannot employ my ſelf more uſefully than in contributing to awaken and poſſeſs Men with a thorough Senſe of the Deity inſpecting, concurring, and intereſting it ſelf in humane Actions and Affairs: So, I hope, it will not be diſagreeable to you, that in order to this, I make my Appeal to Reaſon, from your Remarks upon what I have wrote concerning Viſion; ſince Men who differ in the Means, may yet agree in the End, and in the ſame Candor and Love of Truth.

IX. By a ſenſible Object I underſtand that which is properly perceived by Senſe. Things properly perceived by Senſe are immediately perceived. Beſide Things properly and immediately perceived by any Senſe, there may be alſo other Things ſuggeſted to the Mind, by means of thoſe proper and immediate Objects. Which Things ſo ſuggeſted are not Objects

Objects of that Senſe, being in Truth only Objects of the Imagination, and originally belonging to ſome other Senſe or Faculty. Thus Sounds are the proper Object of Hearing, being properly and immediately perceived by that, and by no other Senſe. But, by the Mediation of Sounds or Words all other Things may be ſuggeſted to the Mind, and yet Things ſo ſuggeſted are not thought the Object of Hearing.

X. The peculiar Objects of each Senſe, although they are truly or ſtrictly perceived by that Senſe alone, may yet be ſuggeſted to the Imagination by ſome other Senſe. The Objects therefore of all the Senſes may become Objects of Imagination, which Faculty repreſents all ſenſible Things. A Colour therefore, which is truly perceived by Sight alone, may nevertheleſs upon hearing the Words *blue* or *red* be apprehended by the Imagination. It is in a primary and peculiar Manner the Object of Sight: In a ſecondary Manner it is the Object of Imagination: But cannot properly be ſuppoſed the Object of Hearing.

XI. The Objects of Senſe, being Things immediately perceived, are otherwiſe called

led Ideas. The Cauſe of theſe Ideas, or the Power producing them, is not the Object of Senſe, not being it ſelf perceived, but only inferred by Reaſon from its Effects, to wit, thoſe Objects or Ideas which are perceived by Senſe. From our Ideas of Senſe the Inference of Reaſon is good to a Power, Cauſe, Agent. But we may not therefore infer that our Ideas are like unto this Power, Cauſe, or active Being. On the contrary, it ſeems evident that an Idea can be only like another Idea, and that in our Ideas or immediate Objects of Senſe, there is nothing of Power, Cauſality, or Agency included.

XII. Hence it follows, that the Power or Cauſe of Ideas is not an Object of Senſe, but of Reaſon. Our Knowledge of the Cauſe is meaſured by the Effect, of the Power by our Idea. To the abſolute Nature, therefore, of outward Cauſes or Powers, we have nothing to ſay: They are no Objects of our Senſe or Perception. Whenever, therefore, the Appellation of ſenſible *Object* is uſed in a determined intelligible Senſe, it is not applied to ſignify the abſolutely exiſting outward Cauſe or Power, but the Ideas themſelves produced thereby.

XIII. Ideas,

XIII. Ideas, which are obſerved to be connected together, are vulgarly conſidered under the Relation of Cauſe and Effect, whereas, in ſtrict and philoſophic Truth, they are only related as the Sign to the Thing ſignified. For we know our Ideas; and therefore know that one Idea cannot be the Cauſe of another. We know that our Ideas of Senſe are not the Cauſe of themſelves. We know alſo that we do not cauſe them. Hence we know they muſt have ſome other efficient Cauſe diſtinct from them and us.

XIV. In treating of Viſion, it was my Purpoſe to conſider the Effects and Appearances, the Objects perceived by my Senſes, the Ideas of Sight as connected with thoſe of Touch; to inquire how one Idea comes to ſuggeſt another belonging to a different Senſe, how Things viſible ſuggeſt Things tangible, how preſent Things ſuggeſt Things remote and future, whether by Likeneſs, by neceſſary Connexion, by Geometrical Inference, or by arbitrary Inſtitution.

XV. It hath indeed been a prevailing Opinion and undoubted Principle among Mathematicians and Philoſophers, that there

there were certain Ideas common to both Senſes: Whence aroſe the Diſtinction of primary and ſecondary Qualities. But I think it hath been demonſtrated that there is no ſuch Thing as a common Object, as an Idea, or kind of Idea perceived both by Sight and Touch *.

XVI. In order to treat with due Exactneſs on the Nature of Viſion, it is neceſſary in the firſt place accurately to conſider our own Ideas: To diſtinguiſh where there is a Difference: To call Things by their right Names: To define Terms, and not confound our ſelves and others by their ambiguous Uſe: The want or neglect whereof hath ſo often produced Miſtakes. Hence it is, that Men talk as if one Idea was the efficient Cauſe of another: Hence they miſtake Inferences of Reaſon for Perceptions of Senſe: Hence they confound the Power reſiding in ſomewhat external with the *proper* Object of Senſe, which is in Truth no *more* than our own Idea.

XVII. When we have well underſtood and conſidered the Nature of Viſion, we may, by reaſoning from thence, be better

* Eſſay of Viſion, Sect. CXXVII. & ſeq.

able

able to collect ſome Knowledge of the external unſeen Cauſe of our Ideas, whether it be one or many, intelligent or unintelligent, active or inert, Body or Spirit. But, in order to underſtand and comprehend this Theory, and diſcover the true Principles thereof, we ſhould conſider, the likelieſt way is not to attend to unknown Subſtances, external Cauſes, Agents or Powers, nor to reaſon or infer any thing about or from Things obſcure, unperceived, and altogether unknown.

XVIII. As in this Inquiry we are concerned with what Objects we perceive, or our own Ideas, ſo upon them our Reaſonings muſt proceed. To treat of Things utterly unknown as if we knew them, and ſo lay our Beginning in Obſcurity, would not ſurely ſeem the propereſt Means for the diſcovering of Truth. Hence it follows that it would be wrong, if one about to treat of the Nature of Viſion, ſhould, inſtead of attending to viſible Ideas, define the Object of Sight to be that obſcure Cauſe, that inviſible Power or Agent, which produced viſible Ideas in our Minds. Certainly, ſuch Cauſe or Power doth not ſeem to be the Object, either of the Senſe or the Science of Viſion, inaſmuch as what we know thereby we

know only of the Effects. Having premiſed thus much, I now proceed to conſider the Principles laid down in your Letter, which I ſhall take in order as they lie.

XIX. In your firſt Paragraph or Section you ſay that, "Whatever it is without which is the Cauſe of any Idea "within, you call the Object of Senſe." And you tell us ſoon after this, * "That "we cannot poſſibly have an Idea of any "Object without." Hence it follows, that by an Object of Senſe you mean ſomething, that we can have no manner of Idea of. This making the Objects of Senſe to be Things utterly inſenſible, or unperceivable, ſeems to me contrary to common Senſe, and the Uſe of Language. That there is nothing in the Reaſon of Things to juſtify ſuch a Definition, is, I think, plain from what hath been premiſed †: and that it is contrary to received Cuſtom and Opinion, I appeal to the Experience of the firſt Man you meet, who, I ſuppoſe, will tell you that by an Object of Senſe he means that which is perceived by Senſe, and not a Thing ut-

* Sect. IV.
† Supra Sect. IX. XI. XII.

terly

terly unperceivable and unknown. The Beings, Subſtances, Powers which exiſt without, may indeed concern a Treatiſe on ſome other Science, and may there become a proper Subject of Inquiry. But, why they ſhould be conſidered as Objects of the viſive Faculty in a Treatiſe of Optics, I do not comprehend.

XX. The real Objects of Sight we ſee, and what we ſee we know. And theſe true Objects of Senſe and Knowledge, to wit our own Ideas, are to be conſidered, compared, diſtinguiſhed in order to underſtand the true Theory of Viſion. As to the outward Cauſe of theſe Ideas, whether it be one and the ſame, or various and manifold, whether it be thinking or unthinking, Spirit or Body, or whatever elſe we conceive or determine about it, the viſible Appearances do not alter their Nature, our Ideas are ſtill the ſame. Though I may have an erroneous Notion of the Cauſe, or though I may be utterly ignorant of its Nature; yet this doth not hinder my making true and certain Judgments about my Ideas: my knowing which are the ſame and which different: wherein they agree, and wherein they diſagree: which are connected together, and wherein this Connexion conſiſts: whether

it be founded in a Likeneſs of Nature, in a Geometrical Neceſſity, or merely in Experience and Cuſtom.

XXI. In your ſecond Section, you ſay, "That if we had but one Senſe, we "might be apt to conclude there were no "Objects at all without us: But that, "ſince the ſame Object is the Cauſe of "Ideas by different Senſes, thence we in-"fer its Exiſtence." Now in the firſt place, I obſerve, that I am at a Loſs concerning the Point which is here aſſumed, and would fain be informed how we come to know, that the ſame Object cauſeth Ideas by different Senſes. In the next place, I muſt obſerve that, if I had only one Senſe, I ſhould nevertheleſs infer and conclude, there was ſome Cauſe without me (which you it ſeems define to be an Object) producing the Senſations or Ideas perceived by that Senſe. For, if I am conſcious that I do not cauſe them, and know that they are not the Cauſe of themſelves, both which Points ſeem very clear, it plainly follows, that there muſt be ſome other third Cauſe diſtinct from me and them.

XXII. In your third Section, you acknowledge with me, "That the Con-"nexion

" nexion between Ideas of different Sen-
" ſes ariſeth only from Experience."
Herein we are agreed. In your fourth
Section you ſay, " That a Word denot-
" ing an external Object, is the Repreſen-
" tative of no manner of Idea: Neither
" can we poſſibly have an Idea of what
" is ſolely without us." What is here
ſaid of an external unknown Object,
hath been already conſidered †.

XXIII. In the following Section of your Letter, you declare, " That our I-
" deas have only an arbitrary Connexion
" with outward Objects: That they are
" nothing like the outward Objects; And
" that a Variation in our Ideas doth not
" imply or infer a Change in the Objects
" which may ſtill remain the ſame."
Now to ſay nothing about the confuſed Uſe of the Word Object, which hath been more than once already obſerved, I ſhall only remark that the Points aſſerted in this Section, do not ſeem to conſiſt with ſome others that follow.

XXIV. For in the ſixth Section you ſay, " That in the preſent Situation of
" Things, there is an infallible certain
" Connexion between the Idea and the

† Supra Sect. XIX.

" Object." But how can we perceive this Connexion, ſince according to you † we never perceive ſuch Object, nor can have any Idea of it? Or not perceiving it, how can we know this Connexion to be infallibly certain?

XXV. In the ſeventh Section, it is ſaid, " That we may, from our infallible Ex- " perience, argue from our Idea of one " Senſe to that of another." But, I think it is plain, that our Experience of the Connexion between Ideas of Sight and Touch is not infallible: Since, if it were, there could be no *Deceptio Viſus* neither in Painting, Perſpective, Dioptrics, nor any other wiſe.

XXVI. In the laſt Section you affirm, " That Experience plainly teaches us, " that a juſt Proportion is obſerved in " the Alteration of the Ideas of each " Senſe, from the Alteration of the Ob- " ject." Now I cannot poſſibly reconcile this Section with the fifth, or comprehend how Experience ſhould ſhew us, that the Alteration of the Object produceth a proportionable Alteration, in the Ideas of different Senſes; or how, indeed, it ſhould ſhew us any thing at all, either from or

† Letter, Sect. IV.

about

about the Alteration of an Object utterly unknown, of which we neither have nor can have any manner of Idea. What I do not perceive or know, how can I perceive, or know to be altered? And, knowing nothing of its Alterations, how can I compute any thing by them, deduce any thing from them, or be ſaid to have any Experience about them?

XXVII. From the Obſervations you have premiſed, rightly underſtood and conſidered, you ſay it follows, "That my "*New Theory of Viſion* muſt in a great "meaſure fall to the Ground; and the "Laws of Optics will be found to ſtand "upon the old unſhaken Bottom." But, though I have conſidered and endeavoured to underſtand your Remarks, yet I do not in the leaſt comprehend how this Concluſion can be inferred from them. The Reaſon you aſſign for ſuch Inference is, "Becauſe, though our Ideas in one Senſe "are intirely different from our Ideas in "another; yet we may juſtly argue from "one to the other, as they have one "common Cauſe without; of which, "you ſay, we cannot poſſibly have even "the fainteſt Idea." Now my Theory no where ſuppoſeth, that we may not juſtly argue, from the Ideas of one Senſe

to thoſe of another, by Analogy and by Experience: On the contrary, this very Point is affirmed, proved, or ſuppoſed throughout †.

XXVIII. Indeed, I do not ſee how the Inferences, which we make from viſible to tangible Ideas, include any Conſideration of one common unknown external Cauſe, or depend thereon, but only on mere Cuſtom or Habit. The Experience which I have had, that certain Ideas of one Senſe are attended or connected with certain Ideas of a different Senſe, is, I think, a ſufficient Reaſon why the one may ſuggeſt the other.

XXIX. In the next place you affirm, "That ſomething without, which is the "Cauſe of all the Variety of Ideas with-"in in one Senſe, is the Cauſe alſo of "the Variety in another: And as they "have a neceſſary Connexion with it, "we very juſtly demonſtrate from our "Ideas of Feeling, of the ſame Object, "what will be our Ideas of Seeing." As to which give me leave to remark, that to inquire whether that unknown Something be the ſame in both Caſes, or diffe-

† Theory of Viſion, Sect. XXXVIII and LXXVIII, &c.

rent,

rent, is a Point foreign to Optics; inaſmuch as our Perceptions, by the viſive Faculty, will be the very ſame, however we determine that Point. Perhaps I think, that the ſame Being which cauſeth our Ideas of Sight, doth cauſe not only our Ideas of Touch likewiſe, but alſo all our Ideas of all the other Senſes, with all the Varieties thereof. But this, I ſay, is foreign to the Purpoſe.

XXX. As to what you advance, That our Ideas have a neceſſary Connexion with ſuch Cauſe, it ſeems to me *gratis dictum:* no Reaſon is produced for this Aſſertion: and I cannot aſſent to it without a Reaſon. The Ideas or Effects, I grant, are evidently perceived: but the Cauſe, you ſay, is utterly unknown *. How, therefore, can you tell whether ſuch unknown Cauſe acts arbitrarily or neceſſarily? I ſee the Effects or Appearances: and I know that Effects muſt have a Cauſe: but I neither ſee nor know that their Connexion with that Cauſe is neceſſary. Whatever there may be, I am ſure I ſee no ſuch neceſſary Connexion, nor, conſequently, can demonſtrate by means thereof, from Ideas of one Senſe to thoſe of another.

* *Letter*, Sect. I. *and* IV.

XXXI. You

XXXI. You add, that, although to talk of ſeeing by tangible Angles and Lines be direct Nonſenſe, yet, to demonſtrate from Angles and Lines in Feeling, to the Ideas in Seeing that ariſe from the ſame common Object, is very good Senſe. If by this no more is meant, than that Men might argue and compute geometrically by Lines and Angles in Optics, it is ſo far from carrying in it any Oppoſition to my Theory, that I have expreſly declared the ſame thing*. This Doctrine, as admitted by me, is indeed ſubject to certain Limitations, there being divers Caſes, wherein the Writers of Optics thought we judged by Lines and Angles, or by a ſort of Natural Geometry; with regard to which I think they were miſtaken, and I have given my Reaſons for it. And thoſe Reaſons, as they are untouched in your Letter, retain their force with me.

XXXII. I have now gone through your Reflexions, which the Concluſion intimates to have been written in haſte, and, having conſidered them with all the Attention I am maſter of, muſt now leave it to the thinking Reader to judge, whether they contain any thing that ſhould

* *Theory of Viſion*, Sect. LXXVIII.

oblige

oblige me to depart from what I have advanced in my *Theory of Vision.* For my own part, if I were ever ſo willing, it is not on this occaſion in my power to indulge my ſelf in the honeſt Satisfaction it would be, frankly to give up a known Error, a thing ſo much more right and reputable to renounce than to defend. On the contrary, it ſhould ſeem that the Theory will ſtand ſecure. Since you agree with me, that Men do not ſee by Lines and Angles. Since I on the other hand agree with you, that we may, nevertheleſs, compute in Optics by Lines and Angles, as I have expreſly ſhewed. Since all that is ſaid in your Letter about the Object, the ſame Object, the Alteration of the Object, is quite foreign to the Theory, which conſidereth our Ideas as the Object of Senſe, and hath nothing to do with that unknown, unperceived, unintelligible thing, which you ſignify by the Word *Object* *. Certainly, the Laws of Optics will not ſtand on the old unſhaken Bottom, if it be allowed, that we do not ſee by Geometry †. If it be evident, that Explications of *Phænomena*, given by the received Theories in Optics, are inſufficient and faulty. If

* Supra, Sect. XIV. † *Letter*, Sect. VIII.

other

other Principles are found neceſſary for explaining the Nature of Viſion. If there be no Idea, nor kind of Idea common to both Senſes *, contrary to the old received univerſal Suppoſition of Optic Writers.

XXXIII. We not only impoſe on others, but often on our ſelves, by the unſteady or ambiguous uſe of Terms. One would imagine that an Object ſhould be perceived. I muſt own when that Word is employed in a different Senſe, that I am at a loſs for its meaning, and conſequently cannot comprehend any Arguments or Concluſions about it: And I am not ſure that, on my own part, ſome Inaccuracy of Expreſſion, as well as the peculiar Nature of the Subject, not always eaſy either to explain or to conceive, may not have rendered my Treatiſe concerning Viſion difficult to a curſory Reader. But, to one of due Attention, and who makes my Words an occaſion of his own Thinking, I conceive the whole to be very intelligible. And when it is rightly underſtood, I ſcarce doubt but it will be aſſented to. One thing, at leaſt, I can affirm, that, if I am miſtaken, I

* *Theory of Viſion*, Sect. CXXVII.

can

can plead neither Haſte nor Inattention, having taken true Pains and much Thought about it.

XXXIV. And had you, Sir, thought it worth while to have dwelt more particularly on the Subject, to have pointed out diſtinct Paſſages in my Treatiſe, to have anſwered any of my Objections to the received Notions, refuted any of my Arguments in behalf of mine, or made a particular Application of your own; I might without doubt have profited by your Reflexions. But it ſeems to me, we have been conſidering, either different things, or elſe the ſame things in ſuch different Views as the one can caſt no Light on the other. I ſhall, nevertheleſs, take this Opportunity to make a Review of my Theory, in order to render it more eaſy and clear; and the rather becauſe, as I had applied myſelf betimes to this Subject, it became familiar: And, in treating of things familiar to our ſelves, we are too apt to think them ſo to others.

XXXV. It ſeemed proper, if not unavoidable, to begin in the accuſtomed Style of Optic Writers, admitting divers things as true, which in a rigorous Senſe

Senſe are not ſuch, but only received by the Vulgar and admitted for ſuch. There hath been a long and cloſe Connexion in our Minds, between the Ideas of Sight and Touch. Hence they are conſidered as one thing: Which Prejudice ſuiteth well enough with the Purpoſes of Life: and Language is ſuited to this Prejudice. The Work of Science and Speculation, is to unravel our Prejudices and Miſtakes, untwiſting the cloſeſt Connexions, diſtinguiſhing things that are different, inſtead of confuſed and perplexed, giving us diſtinct Views, gradually correcting our Judgment, and reducing it to a Philoſophical Exactneſs. And, as this Work is the Work of Time, and done by degrees, it is extremely difficult, if at all poſſible, to eſcape the Snares of popular Language, and the being betrayed thereby to ſay things, ſtrictly ſpeaking, neither true nor conſiſtent. This makes Thought and Candor more eſpecially neceſſary in the Reader. For, Language being accommodated to the Prænotions of Men and Uſe of Life, it is difficult to expreſs therein the preciſe Truth of Things, which is ſo diſtant from their Uſe, and ſo contrary to our Prænotions.

XXXVI. In the Contrivance of Viſion, as in that of other things, the Wiſdom of Providence ſeemeth to have conſulted the Operation, rather than the Theory, of Man; to the former Things are admirably fitted, but, by that very means, the latter is often perplexed. For, as uſeful as theſe immediate Suggeſtions and conſtant Connexions are to direct our Actions; ſo is our diſtinguiſhing between things confounded, and our ſeparating things connected, and as it were blended together, no leſs neceſſary to the Speculation and Knowledge of Truth.

XXXVII. The Knowledge of theſe Connexions, Relations, and Differences of things viſible and tangible, their Nature, Force, and Significancy hath not been duly conſidered by former Writers in Optics, and ſeems to have been the great *Deſideratum* in that Science, which for want thereof was confuſed and imperfect. A Treatiſe, therefore, of this Philoſophical Kind, for the underſtanding of Viſion, is at leaſt as neceſſary as the Phyſical Conſideration of the Eye, Nerve, Coats, Humours, Refractions, bodily Nature, and Motion of Light, or the Geometrical Application of Lines and Angles for *Praxis* or Theory in Dioptric Glaſſes and Mir-

Mirrours, for computing and reducing to ſome Rule and Meaſure our Judgments, ſo far as they are proportional to the Objects of Geometry. In theſe three Lights Viſion ſhould be conſidered, in order to a compleat Theory of Optics.

XXXVIII. It is to be noted, That, in conſidering the Theory of Viſion, I obſerved a certain known Method, wherein, from falſe and popular Suppoſitions, Men do often arrive at Truth. Whereas in the ſynthetical Method of delivering Science or Truth already found, we proceed in an inverted Order, the Concluſions in the Analyſis being aſſumed as Principles in the Syntheſis. I ſhall therefore now begin with that Concluſion, That *Viſion is the Language of the Author of Nature*, from thence deducing Theoremes and Solutions of Phænomena, and explaining the Nature of viſible Things, and the viſive Faculty.

XXXIX. Ideas, which are obſerved to be connected with other Ideas, come to be conſidered as Signs, by means whereof Things, not actually perceived by Senſe, are ſignified or ſuggeſted to the Imagination, whoſe Objects they are, and which alone perceives them. And as Sounds ſuggeſt

ſuggeſt other things, ſo Characters ſuggeſt thoſe Sounds; and, in general, all Signs ſuggeſt the things ſignified, there being no Idea which may not offer to the Mind another Idea, which hath been frequently joined with it. In certain Caſes, a Sign may ſuggeſt its Correlate as an Image, in others as an Effect, in others as a Cauſe. But where there is no ſuch Relation of Similitude or Cauſality, nor any neceſſary Connexion whatſoever, two things by their mere Coexiſtence, or two Ideas, merely by being perceived together may ſuggeſt or ſignify one the other, their Connexion being all the while arbitrary; for it is the Connexion only, as ſuch, that cauſeth this Effect.

XL. A great Number of arbitrary Signs, various and appoſite, do conſtitute a Language. If ſuch arbitrary Connexion be inſtituted by Men, it is an artificial Language; if by the Author of Nature, it is a Natural Language. Infinitely various are the Modifications of Light and Sound, whence they are each capable of ſupplying an endleſs Variety of Signs, and, accordingly, have been each employed to form Languages; the one by the arbitrary Appointment of Mankind, the

other by that of God himſelf*. A Connexion eſtabliſhed by the Author of Nature, in the ordinary courſe of things, may ſurely be called Natural; as that made by Men will be named Artificial. And yet this doth not hinder but the one may be as arbitrary as the other. And, in Fact, there is no more Likeneſs to exhibit, or Neceſſity to infer, things tangible from the Modifications of Light, than there is in Language, to collect the Meaning from the Sound †. But, ſuch as the Connexion is of the various Tones and Articulations of Voice with their ſeveral Meanings, the ſame is it between the various Modes of Light and their reſpective Correlates; or in other Words, between the Ideas of Sight and Touch.

XLI. As to Light, and its ſeveral Modes or Colours, all thinking Men are agreed, that they are Ideas peculiar only to Sight; neither common to the Touch, nor of the ſame Kind with any that are perceived by that Senſe. But herein lies the Miſtake, that beſide theſe,

* Minute Philoſopher, Dial. IV. Sect. VII. XI.

† Theory of Viſion, Sect. CXLIV, and CXLVII.

there

there are ſuppoſed other Ideas common to both Senſes, being equally perceived by Sight and Touch, ſuch as Extenſion, Size, Figure, and Motion. But that there are in reality no ſuch common Ideas, and that the Objects of Sight, marked by thoſe Words, are intirely different and heterogeneous from whatever is the Object of Feeling, marked by the ſame Names, hath been proved in the *Theory* *, and ſeems by you admitted. Though I cannot conceive how you ſhould in reaſon admit this, and at the ſame time contend for the received Theories, which are as much ruined, as mine is eſtabliſhed, by this main Part and Pillar thereof.

XLII. To perceive is one thing; to judge is another. So likewiſe to be ſuggeſted is one thing, and to be inferred another. Things are ſuggeſted and perceived by Senſe. We make Judgments and Inferences by the Underſtanding. What we immediately and properly perceive by Sight, is its primary Object, Light and Colours. What is ſuggeſted or perceived by Mediation thereof, are

* Theory of Viſion, Sect. CXXVII.

tangible Ideas, which may be conſidered as ſecondary and improper Objects of Sight. We infer Cauſes from Effects, Effects from Cauſes, and Properties one from another, where the Connection is neceſſary. But, how comes it to paſs, that we apprehend by the Ideas of Sight certain other Ideas, which neither reſemble them, nor cauſe them, nor are cauſed by them, nor have any neceſſary Connexion with them? The Solution of this Problem, in its full Extent, doth comprehend the whole Theory of Viſion. Thus ſtating of the Matter placeth it on a new Foot, and in a different Light from all preceding Theories.

XLIII. To explain how the Mind or Soul of Man ſimply ſees, is one thing, and belongs to Philoſophy. To conſider Particles as moving in certain Lines, Rays of Light as refracted, or reflected, or croſſing, or including Angles, is quite another thing, and appertaineth to Geometry. To account for the Senſe of Viſion by the Mechaniſm of the Eye, is a third thing, which appertaineth to Anatomy and Experiments. Theſe two latter Speculations are of uſe in Practice, to aſſiſt the Defects, and remedy the Diſtempers

Diſtempers of Sight, agreeably to the natural Laws obtaining in this mundane Syſtem. But the former Theory is that which makes us underſtand the true Nature of Viſion, conſidered as a Faculty of the Soul. Which Theory, as I have already obſerved, may be reduced to this ſimple Queſtion, to wit, How comes it to paſs, that a Set of Ideas, altogether different from tangible Ideas, ſhould nevertheleſs ſuggeſt them to us, there being no neceſſary Connexion between them? To which the proper Anſwer is, That this is done in virtue of an arbitrary Connexion, inſtituted by the Author of Nature.

XLIV. The proper immediate Object of Viſion is Light, in all its Modes and Variations, various Colours in Kind, in Degree, in Quantity; ſome lively, others faint; more of ſome, and leſs of others; various in their Bounds or Limits; various in their Order and Situation. A blind Man, when firſt made to ſee, might perceive theſe Objects, in which there is an endleſs Variety; but he would neither perceive nor imagine any Reſemblance or Connexion, between

theſe viſible Objects and thoſe perceived by Feeling *. Lights, Shades, and Colours would ſuggeſt nothing to him about Bodies hard or ſoft, rough or ſmooth: Nor would their Quantities, Limits, or Order, ſuggeſt to him Geometrical Figures, or Extenſion, or Situation, which they muſt do upon the received Suppoſition, That theſe Objects are common to Sight and Touch.

XLV. All the various Sorts, Combinations, Quantities, Degrees, and Diſpoſitions of Light and Colours, would, upon the firſt Perception thereof, be conſidered in themſelves only, as a new Set of Senſations or Ideas. As they are wholly new and unknown, a Man born blind would not, at firſt Sight, give them the Names of things formerly known and perceived by his Touch: But, after ſome Experience, he would perceive their Connexion with tangible things, and would, therefore, conſider them as Signs, and give them (as is uſual in other Caſes) the ſame Names with the things ſignified.

* Theory of Viſion, Sect. XLI. and CVI.

XLVI. More

XLVI. More and leſs, greater and ſmaller, Extent, Proportion, Interval, are all found in Time, as in Space; but it will not therefore follow, that theſe are homogeneous Quantities. No more will it follow from the Attribution of common Names, that viſible Ideas are homogeneous with thoſe of Feeling. It is true, that Terms denoting tangible Extenſion, Figure, Location, Motion, and the like, are alſo applied to denote the Quantity, Relation, and Order of the proper viſible Objects or Ideas of Sight. But this proceeds only from Experience and Analogy. There is a *Higher* and *Lower* in the Notes of Muſic. Men ſpeak in a high or a low Key. And this, it is plain, is no more than Metaphor or Analogy. So likewiſe to expreſs the Order of viſible Ideas, the Words *Situation*, *High* and *Low*, *Up* and *Down*, are made uſe of, and their Senſe, when ſo applied, is analogical.

XLVII. But in the Caſe of Viſion, we do not reſt in a ſuppoſed Analogy between different and heterogeneous Natures. We ſuppoſe an Identity of Nature, or one and the ſame Object com-

mon to both Senſes. And this Miſtake we are led into; foraſmuch as the various Motions of the Head, upward and downward, to the right and to the left, being attended with a Diverſity in the viſible Ideas, it cometh to paſs, that thoſe Motions and Situations of the Head, which in truth are tangible, do confer their own Attributes and Appellations on viſible Ideas, wherewith they are connected, and which by that means come to be termed High and Low, Right and Left, and to be marked by other Names betokening the Modes of Poſition*; which, antecedently to ſuch experienced Connexion, would not have been attributed to them, at leaſt not in the primary and literal Senſe.

XLVIII. From hence we may ſee, how the Mind is enabled to diſcern by Sight the Situation of diſtant Objects. Thoſe immediate Objects, whoſe mutual Reſpect and Order come to be expreſſed by Terms relative to tangible Place, being connected with the real Objects of Touch. What we ſay and

* Theory of Viſion, Sect. XCIX.

judge

judge of the one, we ſay and judge of the other, transferring our Thought or Apprehenſion from the Signs to the Things ſignified: As it is uſual, in hearing or reading a Diſcourſe, to overlook the Sounds or Letters, and inſtantly paſs on to the Meaning *.

XLIX. But there is a great Difficulty relating to the Situation of Objects, as perceived by Sight. For ſince the Pencils of Rays iſſuing from any luminous Object do, after their Paſſage through the Pupil and their Refraction by the cryſtalline, delineate inverted Pictures in the *Retina*, which Pictures are the immediate proper Objects of Sight, how comes it to paſs, that the Objects whereof the Pictures are thus inverted, do yet ſeem erect and in their natural Situation? For the Objects not being perceived otherwiſe than by their Pictures, it ſhould follow, that as theſe are inverted, thoſe ſhould ſeem ſo too. But this Difficulty, which is inexplicable on all the received Principles and Theories, admits of a moſt natural Solution, if it be conſidered, that the *Retina*, Cryſtalline, Pupil, Rays croſ-

* Min. Phil. Dial. IV. Sect. XII.

ſing

ſing refracted and reunited in diſtinct Images; correſpondent and ſimilar to the outward Objects, are Things altogether of a tangible Nature.

L. The Pictures, ſo called, being formed by the radious Pencils after their abovementioned Croſſing and Refraction are not ſo truly Pictures as Images or Figures or Projections, tangible Figures projected by tangible Rays on a tangible *Retina*, which are ſo far from being the proper Objects of Sight, that they are not at all perceived thereby, being by Nature altogether of the tangible Kind, and apprehended by the Imagination alone, when we ſuppoſe them actually taken in by the Eye. Theſe tangible Images on the *Retina* have ſome Reſemblance unto the tangible Objects from which the Rays go forth; and in reſpect of thoſe Objects I grant they are inverted. But then I deny, that they are, or can be, the proper immediate Objects of Sight. This indeed is vulgarly ſuppoſed by the Writers of Optics: but it is a vulgar Error: Which being removed, the forementioned Difficulty is removed with it, and admits a juſt and full Solution, being ſhewn to ariſe from a Miſtake.

LI.

LI. Pictures therefore may be underſtood in a twofold Senſe, or as two Kinds quite diſſimilar and heterogeneous, the one conſiſting of Light, Shade, and Colours; the other, not properly Pictures, but Images projected on the *Retina*. Accordingly for Diſtinction I ſhall call thoſe *Pictures* and theſe *Images*. The former are viſible and the peculiar Objects of Sight. The latter are ſo far otherwiſe, that a Man blind from his Birth may perfectly imagine, underſtand, and comprehend them. And here it may not be amiſs to obſerve, that Figures and Motions, which cannot be actually felt by us, but only imagined, may nevertheleſs be eſteemed tangible Ideas, foraſmuch as they are of the ſame Kind with the Objects of Touch, and as the Imagination drew them from that Senſe.

LII. Throughout this whole Affair, the Mind is wonderfully apt to be deluded by the ſuddain Suggeſtions of Fancy, which it confounds with the Perceptions of Senſe, and is prone to miſtake a cloſe and habitual Connexion between the moſt diſtinct and different Things for an Identity of Nature †. The Solution

† Theory of Viſion, Sect. CXLIV.

of

of this Knot about inverted Images ſeems the principal Point in the whole Optic Theory, the moſt difficult perhaps to comprehend but the moſt deſerving of our Attention, and, when rightly underſtood, the ſureſt way to lead the Mind into a thorough Knowledge of the true Nature of Viſion.

LIII. It is to be noted of thoſe inverted Images on the *Retina*, that, although they are in Kind altogether different from the proper Objects of Sight or Pictures, they may nevertheleſs be proportional to them; as indeed the moſt different and heterogeneous Things in Nature may, for all that, have Analogy, and be proportional each to other. And although thoſe Images, when the Diſtance is given, ſhould be ſimply as the radiating Surfaces; and although it be conſequently allowed, that the Pictures are in that Caſe proportional to thoſe radiating Surfaces, or the tangible real Magnitude of Things; yet it will not thence follow, that in common Sight we perceive or judge of thoſe tangible real Magnitudes, ſimply by the viſible Magnitudes of the Pictures; for therein the Diſtance is not given, tangible Objects being

being placed at various Diſtances: And the Diameters of the Images, to which Images the Pictures are proportional, are inverſly as thoſe Diſtances, which Diſtances are not immediately perceived by Sight †. And admitting they were, it is nevertheleſs certain, that the Mind, in apprehending the Magnitudes of tangible Objects by Sight, doth not compute them, by means of the inverſe Proportion of the Diſtances and the direct Proportion of the Pictures. That no ſuch Inference or Reaſoning attends the common Act of Seeing, every one's Experience may inform him.

LIV. To know how we perceive or apprehend by Sight the real Magnitude of tangible Objects, we muſt conſider the immediate viſible Objects, and their Properties or Accidents. Theſe immediate Objects are the Pictures. Theſe Pictures are ſome more lively, others more faint. Some are higher, others are lower in their own Order, or peculiar Location, which, though in truth quite diſtinct, and altogether different from that of tangible Objects, hath nevertheleſs a Relation and

† Theory of Viſion, Sect. II.

Con-

Connexion with it, and thence comes to be ſignified by the ſame Terms, *high*, *low*, and ſo forth. Now by the Greatneſs of the Pictures, their Faintneſs, and their Situation we perceive the Magnitude of tangible Objects. The greater, the fainter, and the upper Pictures ſuggeſting the greater tangible Magnitude.

LV. For the better Explication of this Point, we may ſuppoſe a diaphanous Plain erected near the Eye, perpendicular to the Horizon, and divided into ſmall equal Squares. A ſtraight Line from the Eye to the utmoſt Limit of the Horizon, paſſing through this diaphanous Plain, will mark a certain Point or Height to which the horizontal Plain, as projected or repreſented in the perpendicular Plain, would riſe. The Eye ſees all the Parts and Objects in the horizontal Plain, through certain correſponding Squares of the perpendicular diaphanous Plain. Thoſe that occupy moſt Squares have a greater viſible Extenſion, which is proportional to the Squares. But the tangible Magnitudes of Objects are not judged proportional thereto. For thoſe which are ſeen through the upper Squares, ſhall appear vaſtly bigger than thoſe ſeen through

through the lower Squares, though occupying the ſame, or a much greater Number of thoſe equal Squares in the diaphanous Plain.

LVI. Rays iſſuing from every Point, of each Part or Object in the horizontal Plain, through the diaphanous Plain to the Eye, do to the Imagination exhibit an Image of the horizontal Plain and all its Parts, delineated in the diaphanous Plain, and occupying the Squares thereof to a certain Height, marked out by a right Line reaching from the Eye to the fartheſt Limit of the Horizon. A Line drawn through the forementioned Height or Mark, upon the diaphanous Plain, and parallel to the Horizon, I call the Horizontal Line. Every Square contains an Image of ſome correſponding Part of the Horizontal Plain. And this intire Image we may call the Horizontal Image, and the Picture anſwering to it the Horizontal Picture. In which Repreſentation, the upper Images ſuggeſt much greater Magnitudes than the lower. And theſe Images ſuggeſting the greater Magnitudes are alſo fainter as well as upper. Whence it follows, that Faintneſs and Situation concur with viſible Magnitude to ſuggeſt tangible

gible Magnitude. For the Truth of all which I appeal to the Experience and Attention of the Reader, who ſhall add his own Reflexion to what I have written.

LVII. It is true, this diaphanous Plain, and the Images ſuppoſed to be projected thereon, are altogether of a tangible Nature *: But then there are Pictures relative to thoſe Images: and thoſe Pictures have an Order among themſelves, anſwering to the Situation of the Images, in reſpect of which Order they are ſaid to be higher and lower †. Theſe Pictures alſo are more or leſs faint, they, and not the Images, being in truth the viſible Objects. Therefore what hath been ſaid of the Images, muſt in Strictneſs be underſtood of the correſponding Pictures, whoſe Faintneſs, Situation, and Magnitude, being immediately perceived by Sight, do all three concur in ſuggeſting the Magnitude of tangible Objects, and this only by an experienced Connexion.

LVIII. The Magnitude of the Picture will perhaps be thought by ſome to have a neceſſary Connexion with that of the

* Theory of Viſion, Sect. CLVIII.
† Supra, Sect. XLVI.

tan-

tangible Object, or, (if not confounded with it) to be at leaſt the ſole means of ſuggeſting it. But ſo far is this from being true, that of two viſible Pictures equally large, the one being fainter and upper, ſhall ſuggeſt an hundred times greater tangible Magnitude than the other †: Which is an evident Proof, that we do not judge of the tangible Magnitude merely by the viſible: But that our Judgment or Apprehenſion is to be rated rather by other Things, which yet, not being conceived to have ſo much Reſemblance with tangible Magnitude, may therefore be overlooked.

LIX. It is farther to be obſerved, that beſide this Magnitude, Situation, and Faintneſs of the Pictures, our Prænotions concerning the Kind, Size, Shape, and Nature of Things do concur in ſuggeſting to us their tangible Magnitudes. Thus, for inſtance, a Picture equally great, equally faint, and in the very ſame Situation ſhall, in the Shape of a Man, ſuggeſt a leſſer tangible Magnitude, than it would in the Shape of a Tower.

† Theory of Viſion, Sect. LXXVIII.

LX. Where the kind Faintneſs and Situation of the horizontal Pictures † are given, the ſuggeſted tangible Magnitude will be as the Viſible. The Diſtances and Magnitudes, that we have been accuſtomed to meaſure by Experience of Touch, lying in the Horizontal Plain, it thence comes to paſs, that Situations of the Horizontal Pictures ſuggeſt the tangible Magnitudes, which are not in like manner ſuggeſted by vertical Pictures. And it is to be noted that, as an Object gradually aſcends from the Horizon towards the Zenith, our Judgment concerning its tangible Magnitude comes by Degrees, to depend more intirely on its viſible Magnitude. For the Faintneſs is leſſened as the Quantity of intercepted Air and Vapours is diminiſhed: And as the Object riſeth, the Eye of the Spectator is alſo raiſed above the Horizon: So that the two concurring Circumſtances, of Faintneſs and Horizontal Situation, ceaſing to influence the Suggeſtion of tangible Magnitude; this ſame Suggeſtion or Judgment doth in Proportion thereto, become the ſole Effect of the viſible Magnitude and the Prænotions. But it is evident, that if ſeveral Things (for inſtance,

† Supra, Sect. LVI.

the

the Faintneſs, Situation, and viſible Magnitude) concur to enlarge an Idea, upon the gradual Omiſſion of ſome of thoſe Things, the Idea will be gradually leſſened. This is the Caſe of the Moon *, when ſhe aſcends above the Horizon, and gradually diminiſheth her apparent Dimenſion, as her Altitude increaſeth.

LXI. It is natural for Mathematicians, to regard the viſual Angle and the apparent Magnitude, as the ſole or principal Means of our apprehending the tangible Magnitude of Objects. But it is plain from what hath been premiſed, that our Apprehenſion is much more influenced by other Things †, which have no Similitude or neceſſary Connexion therewith.

LXII. And theſe ſame Means, which ſuggeſt the Magnitude of tangible Things, do alſo ſuggeſt their Diſtance ‡, and in the ſame Manner, that is to ſay, by Experience alone, and not by any neceſſary Connexion, or Geometrical Inference. The Faintneſs therefore, and Vividneſs, the upper and lower Situation, together with

* Theory of Viſion, Sect. LXXIII.
† Supra, Sect. LVIII.
‡ Theory of Viſion, Sect. LXXVII.

the viſible Size of the Pictures, and our Prænotions concerning the Shape and Kind of tangible Objects, are the true Medium by which we apprehend the various Degrees of tangible Diſtance. Which follows from what hath been premiſed, and will indeed be evident to whoever conſiders, that thoſe viſual Angles, with their Arches or Subtenſes, are neither perceived by Sight, nor by Experience of any other Senſe. Whereas it is certain, that the Pictures, with their Magnitudes, Situations, and Degrees of Faintneſs are alone the proper Objects of Sight. So that, whatever is perceived by Sight, muſt be perceived by Means thereof. To which Perception the Prænotions alſo, gained by Experience of Touch or of Sight and Touch conjunctly, do contribute.

LXIII. And indeed we need only reflect on what we ſee, to be aſſured that the leſs the Pictures are, the fainter they are, and the higher (provided ſtill they are beneath the Horizontal † Line or its Picture) by ſo much the greater, will the Diſtance ſeem to be. And this upper Situation of the Picture, is in Strictneſs

† Supra, Sect. LVI.

what

what muſt be underſtood when, after a popular Manner of Speech, the Eye is ſaid to perceive Fields, Lakes, and the like, interjacent † between it and the diſtant Object, the Pictures correſponding to them being only perceived to be lower than that of the Object ‡. Now it is evident, that none of theſe Things have in their own Nature any neceſſary Connexion with the various Degrees of Diſtance. It will alſo appear upon a little Reflexion, that ſundry Circumſtances of Shape, Colour, and Kind, do influence our Judgments or Apprehenſions of Diſtance: All which follows from our Prænotions, which are meerly the Effect of Experience.

LXIV. As it is natural for Mathematicians to reduce Things to the Rule and Meaſure of Geometry, they are prone to ſuppoſe that the apparent Magnitude hath a greater Share than we really find, in forming our Judgment concerning the Diſtance of Things from the Eye. And, no doubt, it would be an eaſy and ready Rule to determine the apparent Place of an Object, if we could ſay, that its Diſtance was inverſly as the Diameter of its

† Theory of Viſion, Sect. III.
‡ Supra, Sect. LV.

apparent Magnitude, and ſo judge by this alone excluſive of every other Circumſtance. But that this would be no true Rule, is evident, there being certain Caſes in Viſion, by refracted or reflected Light, wherein the Diminution of the apparent Magnitude is attended with an apparent Diminution of Diſtance.

LXV. But further to ſatisfy us that our Judgments or Apprehenſions, either of the Greatneſs or Diſtance of an Object, do not depend abſolutely on the apparent Magnitude, we need only ask the firſt Painter we meet, who, conſidering Nature rather than Geometry, well knows that ſeveral other Circumſtances contribute thereto: And ſince Art can only deceive us as it imitates Nature, we need but obſerve Pieces of Perſpective and Landſchapes, to be able to judge of this Point.

LXVI. When the Object is ſo near, that the Interval between the Pupils beareth ſome ſenſible Proportion to it, the Senſation, which attends the Turn or Straining of the Eyes, in order to unite the two Optic Axes therein, is to be conſidered as one Means of our per-

perceiving Diſtance *. It muſt be owned, this Senſation belongeth properly to the Senſe of Feeling; but as it waits upon, and hath a conſtant regular Connexion with, diſtinct Viſion of near Diſtance (the nearer This, the greater That) ſo it is natural, that it ſhould become a Sign thereof, and ſuggeſt it to the Mind †. And that it is ſo in Fact, follows from that known Experiment, of hanging up a Ring Edge-wiſe to the Eye, and then endeavouring, with one Eye ſhut, by a lateral Motion, to inſert into it the End of a Stick; which is found more difficult to perform than with both Eyes open, from the Want of this Means of judging by the Senſation attending the nearer meeting or croſſing of the two Optic Axes.

LXVII. True it is, that the Mind of Man is pleaſed to obſerve in Nature Rules or Methods, ſimple, uniform, general, and reducible to Mathematics, as a means of rendering its Knowledge at once eaſy and extenſive. But we muſt not, for the ſake of Uniformities or Analogies, depart from Truth and Fact,

* Theory of Viſion, Sect. XVI, XVII.

† Supra. Sect. XXXIX.

nor imagine that in all Caſes, the apparent Place or Diſtance of an Object muſt be ſuggeſted by the ſame Means. And, indeed, it anſwers the Ends of Viſion to ſuppoſe, that the Mind ſhould have certain additional Means or Helps, for judging more accurately of the Diſtance of thoſe Objects, which are the neareſt, and conſequently moſt concern us.

LXVIII. It is alſo to be obſerved, that when the Diſtance is ſo ſmall, that the Breadth of the Pupil bears a conſiderable Proportion to it, the Object appears confuſed. And this Confuſion being conſtantly obſerved in poring on ſuch near Objects, and increaſing as the Diſtance leſſens, becomes thereby a Means of ſuggeſting the Place of an Object *. For one Idea is qualified to ſuggeſt another, meerly by being often perceived with it. And if the one increaſeth either directly or inverſly, as the other, various Degrees of the former will ſuggeſt various Degrees of the latter, by virtue of ſuch habitual Connexion, and proportional Increaſe or Diminution. And thus, the gradual changing Confuſedneſs of an Object may concur to form our Apprehen-

* Theory of Viſion, Sect. XXI.

ſion

ſion of near Diſtance, when we look only with one Eye. And this alone may explain Dr. *Barrow*'s Difficulty, the Caſe as propoſed by him, regarding only one viſible point *. And when ſeveral Points are conſidered, or the Image ſuppoſed an extended Surface, its increaſing Confuſedneſs will, in that Caſe, concur with the increaſing Magnitude to diminiſh its Diſtance, which will be inverſly as both.

LXIX. Our Experience in Viſion is got by the naked Eye. We apprehend or judge from this ſame Experience, when we look through Glaſſes. We may not, nevertheleſs, in all Caſes, conclude from the one to the other, becauſe that certain Circumſtances either excluded or added, by the help of Glaſſes, may ſometimes alter our Judgments, particularly as they depend upon Prænotions.

LXX. What I have here written may ſerve as a Commentary on my *Eſſay towards a new Theory of Viſion*; and, I believe, will make it plain to thinking Men. In an Age wherein we hear ſo much of Thinking and Reaſoning, it may ſeem

* Theory of Viſion, Sect. XXIX.

needleſs

needleſs to obſerve, how uſeful and neceſſary it is to think, in order to obtain juſt and accurate Notions, to diſtinguiſh Things that are different, to ſpeak conſiſtently, to know even our own Meaning. And yet for want of this, we may ſee many, even in theſe Days, run into perpetual Blunders and Paralogiſms. No Friend, therefore, to Truth and Knowledge, would lay any Reſtraint or Diſcouragement on Thinking. There are, it muſt be owned, certain general Maxims, the Reſult of Ages, and the collected Senſe of thinking Perſons, which ſerve inſtead of Thinking, for a Guide or Rule to the Multitude, who, not caring to think for themſelves, it is fit they ſhould be conducted by the Thought of others. But thoſe who ſet up for themſelves, thoſe who depart from the publick Rule, or thoſe who would reduce them to it, if they do not think, what will Men think of them? As I pretend not to make any Diſcoveries which another might not as well have made, who ſhould have thought it worth his Pains: So I muſt needs ſay, that without Pains and Thought no Man will ever underſtand the true Nature of Viſion, or comprehend what I have wrote concerning it.

LXXI. Before

LXXI. Before I conclude, it may not be amiſs to add the following Extract from the *Philoſophical Tranſactions*, relating to a Perſon blind from his Infancy, and long after made to ſee: "When he "firſt ſaw, he was ſo far from making "any Judgment about Diſtances, that he "thought all Objects whatever touched "his Eyes (as he expreſſed it) as what "he felt did his Skin; and thought no "Objects ſo agreeable as thoſe which "were ſmooth and regular, though he "could form no Judgment of their "Shape, or gueſs what it was in any Ob-"ject that was pleaſing to him. He knew "not the Shape of any thing, nor any "one thing from another, however dif-"ferent in Shape or Magnitude: but up-"on being told what things were, whoſe "Form he before knew from Feeling, he "would carefully obſerve that he might "know them again: but having too "many Objects to learn at once, he for-"got many of them: And (as he ſaid) at "firſt he learned to know, and again for-"got a thouſand Things in a Day. Se-"veral Weeks after he was couched, be-"ing deceived by Pictures he asked, which "was the lying Senſe, Feeling or Seeing? "He was never able to imagine any Lines "beyond the Bounds he ſaw. The Room

"he

" he was in, he ſaid, he knew to be but " Part of the Houſe, yet he could not " conceive that the whole Houſe could " look bigger. He ſaid every new Ob- " ject was a new Delight, and the Plea- " ſure was ſo great that he wanted Ways " to expreſs it †." Thus, by Fact and Experiment thoſe Points of the Theory, which ſeem the moſt remote from common Apprehenſion, were not a little confirmed many Years after I had been led into the Diſcovery of them by Reaſoning.

F I N I S.

APPENDIX.

A Letter *from an anonymous Writer to the Author of the* Minute Philoſopher.

Reverend Sir,

I Have read over your Treatiſe called *Alciphron*, in which the Free-thinkers of the preſent Age, in their various ſhifted Tenets, are pleaſantly, elegantly and ſolidly confuted; the Style is eaſy, the Language plain, and the Arguments are nervous; but upon the Treatiſe annexed thereto, and upon that Part where you ſeem

† Phil. Tranſact. Num. 402.

ſeem to intimate that Viſion is the ſole Language of God, I beg leave to make theſe few Obſervations, and offer them to yours and your Readers Conſideration.

I. Whatever it is without that is the Cauſe of any Idea within, I call the Object of Senſe; the Senſations ariſing from ſuch Objects I call Ideas: The Objects therefore that cauſe ſuch Senſations, are without us, and the Ideas within.

II. Had we but one Senſe, we might be apt to conclude that there were no Objects at all without us, but that the whole Scene of Ideas which paſſed through the Mind, aroſe from its internal Operations; but ſince the ſame Object is the Cauſe of Ideas by different Senſes, thence we infer its Exiſtence: But though the Object be one and the ſame, the Ideas that it produces in different Senſes have no manner of Similitude with one another. Becauſe,

III. Whatever Connexion there is betwixt the Idea of one Senſe, and the Idea of another, produced by the ſame Object, ariſes only from Experience. To explain this a little familiarly; let us ſuppoſe a Man to have ſuch an exquiſite Senſe of feeling given him, that he could perceive plainly and diſtinctly the Inequality of the Surface of two Objects, which by its reflecting and refracting the Rays of Light, produces the Ideas of Colours. At firſt in the

the Dark; though he plainly perceived a Difference by his Touch, yet he could not poſſibly tell which was red and which was white, whereas a little Experience would make him feel a Colour in the Dark, as well as ſee it in the Light.

IV. The ſame Word in Languages ſtands very often for the Object without, and the Ideas it produces within, in the ſeveral Senſes. When it ſtands for any Object without, it is the Repreſentative of no manner of Idea; neither can we poſſibly have any Idea of what is ſolely without us. Becauſe,

V. Ideas within have no other Connexion with the Objects without, than from the Frame and Make of our Bodies, which is by the arbitrary Appointment of God; and though we cannot well help imagining that the Objects without are ſomething like our Ideas within, yet a new Sett of Senſes, or the Alteration of the old ones, would ſoon convince us of our Miſtake; and though our Ideas would then be never ſo different, yet the Objects might be the ſame.

VI. However, in the preſent Situation of Affairs, there is an infallible certain Connexion betwixt the Idea and the Object: And therefore, when an Object produces an Idea in one Senſe, we know, but from Experience only, what Idea it will produce in another Senſe. VI.

VII. The Alteration of an Object may produce a different Idea in one Senſe from what it did before, which may not be diſtinguiſhed by another Senſe. But where the Alteration occaſions different Ideas in different Senſes, we may from our infallible Experience argue from the Idea of one Senſe to that of the other; ſo that if a different Idea ariſes in two Senſes from the Alteration of an Object either in Situation or Diſtance, or any other way, when we have the Idea in one Senſe, we know from Uſe what Idea the Object ſo ſituated will produce in the other.

VIII. Hence as the Operations of Nature are always regular and uniform, where the ſame Alteration of the Object occaſions a ſmaller Difference in the Ideas of one Senſe, and a greater in the other, a curious Obſerver may argue as well from exact Obſervations, as if the Difference in the Ideas was equal; ſince Experience plainly teaches us, that a juſt Proportion is obſerved in the Alteration of the Ideas of each Senſe, from the Alteration of the Object. Within this Sphere is confined all the judicious Obſervations and Knowledge of Mankind: Now from theſe Obſervations rightly underſtood and conſidered, your new Theory of Viſion muſt in a great meaſure fall to the Ground, and the Laws of Opticks will be found to ſtand upon the old

old unſhaken Bottom. For though our Ideas of Magnitude and Diſtance in one Senſe are intirely different from our Ideas of Magnitude and Diſtance in another, yet we may juſtly argue from one to the other, as they have one common Cauſe without, of which, as without, we cannot poſſibly have the fainteſt Idea. The Ideas I have of Diſtance and Magnitude by Feeling, are widely different from the Ideas I have of them by Seeing; but that ſomething without, which is the Cauſe of all the Variety of the Ideas within, in one Senſe, is the Cauſe alſo of the Variety in the other; and as they have a neceſſary Connexion with it, we very juſtly demonſtrate from our Ideas of Feeling of the ſame Object, what will be our Ideas in Seeing. And though to talk of Seeing by tangible Angles and tangible Lines; be, I agree with you, direct Nonſenſe, yet to demonſtrate from Angles and Lines in Feeling, to the Ideas in Seeing that ariſe from the ſame common Object, is very good Senſe, and ſo *vice verſa*. From theſe Obſervations thus haſtily laid together, and a thorough Digeſtion thereof, a great many uſeful Corollaries in all Philoſophical Diſputes might be collected. I am,

Your humble Servant, &c.

ERRATA.

Page 40, l. ult. *after* Touch, *for* Full-Point *place* Comma;
Page 41, l. 15. *read* are ſuppoſed.

Mayne, Zachary

TWO DISSERTATIONS CONCERNING *SENSE*, AND THE IMAGINATION. WITH AN ESSAY ON *CONSCIOUSNESS.*

LONDON:
Printed for J. TONSON in the *Strand.*
MDCCXXVIII.

TO THE

READER.

THE *Deſign of the following Diſſertations, and the particular Occaſion there is for them at preſent, are briefly ſet forth at the Entrance on the Firſt, and in the Cloſe of the Latter. But, which likewiſe deſerves to be obſerved to the Reader, They are a Refutation of a very dangerous and pernicious Opinion, which*

prevails almoſt every where, viz. "*That* "*Brutes have the ſame Powers or Ca-* "*pacities of Underſtanding, with Man-* "*kind.*" *This Opinion is a direct and immediate Conſequence of Mr.* Locke's *Doctrine of* Ideas, (*and no more needs be ſaid of it, to ſignify that it paſſes current*) *which places the Act of* Underſtanding *in thoſe* Perceptions, *which are in common to* Men, *and* Brutes: *And ſo makes the Human Shape to be the only real Diſtinction of Men, from other Animals: Which is plainly making* Man *to be but a Sort or Species of* Brute; *it being certain that no one Brute differs more from Man, in its Shape or Figure, than it does from ſome other Brute. But if it can be proved to Satisfaction,* (*which is here attempted, and was never, that I know of, yet done*) *that the Faculties of* Perceiving, *which*

Brutes

To the READER.

Brutes *have, as well as* Men, *namely* Senſe, *and the* Imagination, *are not* Intellectual, *or the Mind's Powers of underſtanding Things; it undeniably follows that the* Human Intellect *muſt differ eſſentially, or in its very Nature, from the* Perception *and Capacity of* Brutes: *And conſequently, it is* Reaſon *and* Underſtanding *alone, which conſtitutes the true and real Difference between* Mankind, *and thoſe Creatures of an inferiour Rank and Order, called* Brutes, *to denote their being deſtitute of* Underſtanding.

The Eſſay on Conſciouſneſs *is the firſt Attempt that hath been made on the Subject. I'm truly ſenſible that ſo excellent an Argument muſt needs ſuffer extremely by happening to light into ſuch weak and unskilful Hands as Mine: And cannot but wiſh, that ſome towering Genius,*

us, a Plato, *or an* Ariſtotle, *had undertaken it, who, by his vaſt Penetration, and fine maſterly Strokes of Wit and Invention, would have done Juſtice to it in all reſpects; and thereby have merited the Thanks and Acknowledgments of Mankind: And he could not have failed of endearing his Memory to Poſterity, more perhaps than by any Work that hath yet appeared in the World. For ſuch a Performance, (as far as my own ſmall Share of Inſight and Knowledge will allow me to judge, or gueſs in the Caſe) would have been opening to us a new and agreeable Scene of Ourſelves; or giving us a View and Proſpect of Human Nature, very much to its Credit and Advantage, which is no otherwiſe to be had, and withal difficult to come at, as lying quite out of the Road of common Obſervation. But however, till*

To the READER.

ſuch a Genius ariſes, who can compleat and perfect a Work of which Himſelf is the firſt Author, every one is at Liberty to make a Tryal of his own Abilities. And a Beginning, tho' but indifferent, or barely tolerable, hath ſome Merit in it: And which is the utmoſt this Eſſay pretends to.

ERRATA.

P. 9. l. 8. *after* conſequently, *add* tho', *and after* Senſe, *dele* tho'.
9. l. 9. *after* allowed, *dele* it.
9. l. 17. *after* as, *add* a.
20. l. 17. *dele*, called Colour.
22. l. 25. *for* applicable, *r.* applied.
26. l. 25. *for* Matter, *r.* Make.
45. l. 5. *after* as, *dele* it.
96. l. 20. *for* an, *r.* and.
107. l. 7. *for* are to be conſider'd, *r.* we are to conſider.
145. l. 18. *for* it, *r.* in.
148. l. 13. *for* all, *r.* as well.
150. l. 17. *for* And, *r.* But.
176. l. 2. *after* Operation, *add* ,
205. l. 18. *for* Conſideration, *r.* Condition.
206. l. 5. *for* Wills, *r.* Nills.

A

DISSERTATION

CONCERNING

SENSE.

IN diſcourſing of *Senſe*, I ſhall conſider it no otherwiſe than as a ſubordinate and miniſterial Faculty, which is employed and made uſe of, in the Service and Exerciſe of the *Underſtanding*; and not meddle with any thing relating to it, how important ſoever it may be in any other reſpect, that does not immediately concern, or may properly fall under ſuch a Diſquiſition. The Deſign of this Tract, (and, as I may here premiſe, of That which follows it) being to ſerve only as an Introduction,

or to prepare and clear the Way, to a fair and impartial Enquiry into the Nature of *Human Underſtanding*. An Enquiry which, I preſume to think, is at preſent very much wanted; and towards which the removal of thoſe Prejudices ariſing from *Senſe*, and the *Imagination*, which hinder Men from diſcovering the Truth, or diſcerning it, tho' fairly offered to them, is the firſt Step to be made; and may be of ſome uſe to any one who ſhall hereafter undertake to explain and ſet forth, in a clear and perſpicuous Light, the native and genuine Operations of the *Underſtanding*, as they are in Themſelves, without mixing or confounding them with any Others.

Senſe is a Faculty in its nature merely perceptive, or which does nothing elſe but Perceive, as being wholly paſſive in perceiving, or always under the immediate Influence of That which excites Perception in it; and having no power to conſider or reflect on any thing it perceives. And ſeeing its Perceptions are confined to Corporeal Objects or Exiſtences, for all Senſation is produced in the Soul by the help or mediation of Organs, in their receiving the Impreſſions,

Impreſſions of, or being acted upon by, external Bodies; *Senſe* therefore to an Intelligent Being, as Intelligent, is no otherwiſe valuable or conſiderable than for the ſake of thoſe Kinds of Objects: and its proper Uſe and Office doth conſiſt in exhibiting and preſenting them to its View; as thereby it adminiſters Occaſion for the Exerciſe and Employment of its Thinking and Rational Faculties.

And how well adapted, and how truly ſerviceable *Senſe* is to this End and Purpoſe, muſt appear evident to any one who conſiders the vaſt and almoſt infinite Variety of Corporeal Beings and Exiſtences which it inceſſantly diſcovers and expoſeth to our View; Every one of which, in its ſeveral Kind and Degree, hath its peculiar Significancy and Importance, and is endowed with ſome Virtue, or Excellency and Perfection, proper to itſelf: And thereby affords ſo much Matter and Occaſion for continual Thought and Reflection, that the moſt exalted Genius, or the moſt penetrating, active, and capacious Underſtanding, might find Buſineſs and Entertainment enough for whole Ages, ſhould it do no-

thing elſe but Study and Contemplate them. The more any one comprehends of their Natures, Uſes, and Deſigns, the better qualified he is (and indeed naturally led thereby) to diſcover and apprehend that there muſt be a *Creator*, or *firſt Cauſe* of all Things; a Being which is Self-exiſtent, and endued with all Kinds and Sorts of Perfections, or ſuch as is infinitely and abſolutely Perfect: which is the Top Diſcovery that can be made by a finite Underſtanding, and of all other Knowledge the moſt uſeful and neceſſary, as well as the nobleſt and moſt excellent. And by knowing the Creatures, tho' but rudely and imperfectly, and not as He knows them who made them, we are enabled to form a right Notion and Judgment (which it mightily concerns us to have) of the Nature, Dignity and Excellence of our own *Reaſon* and *Underſtanding*, viz. that it bears in it ſome Reſemblance to the *Divine Reaſon*: for without all queſtion, to Know or Apprehend, tho' in any the leaſt meaſure and degree, the Works and Deſigns of an infinitely wiſe Being, is, in ſome degree, to Reſemble (how far ſoever it be from approaching) the

the *Reaſon* and *Underſtanding* of ſuch a Being.

Some indeed would have it thought, that the *Senſes* are deſigned chiefly, if not purely and ſolely, for the Defence and Preſervation of the Body, inaſmuch as they belong to the Animal Life and Nature, to which a Body is eſſential, but *Reaſon* or a Rational Soul is not. But ſuppoſing them to belong properly, or ſolely, to the Animal Nature, yet that, in a rational Being, which does no more than Partake of ſuch a Nature, their only, or principal Uſe and Deſign ſhould be their Serviceableneſs to the Body, juſt as in mere Animals, is what I think ought in no wiſe to be granted or allowed. For *Reaſon* is a Faculty, and beſides it there is no other, which is Conſcious of its own Virtues and Abilities, and which diſcerns and takes cogniſance of the Soul's other Powers. And Thereby, is not only fitly qualified to Preſide over, and Govern and Direct them, but it has a Right to make its own Uſes of them; inaſmuch as whatever is incapable of Governing and managing it ſelf, (as every thing, ſtrictly ſpeaking, is, that has not *Reaſon*, and is

not ſelf-conſcious) does, like a natural Property and Poſſeſſion, come under the Sway and Direction of That which Diſcerns and is a competent Judge of its Virtues and Capacities, and knows how to manage them, and make a right and proper Uſe and Advantage of them. So that the *Senſes* are, by the very Condition of their Nature, ſubordinate to *Reaſon*, and ſubſervient to its Uſes. And conſequently, altho' they belong to Man, as he is an Animal, and hath a Body whereby he is allied to Brutes; yet ſince he is Rational, which a mere Animal is not, and knows how to employ and make uſe of them ſuitably to the Rank and Dignity of ſuch a Being, 'tis certain, their chief Uſe and Deſign muſt be their Serviceableneſs to *Reaſon*. Or ſuppoſing the caſe to be otherwiſe; the *Reaſon* of a Being, which is an Animal, muſt yield it ſelf up to the Government and Direction of the *Senſes*; or Senſitive Appetite ought to Predominate, and give the Law to *Reaſon*: which is as prepoſterous and abſurd, as if a Man, who has Eyes to ſee the right Way he is to walk in, ſhould ſuffer himſelf to be Guided and Led by one that is Blind. And

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whereupon it follows, (which is no impertinent or unuſeful Obſervation) that the Animal Life or Nature is not that which properly, or moſt properly, denominates the true Life and Being of *Man*; becauſe *Reaſon* does, by its ſuperiour Greatneſs and Excellency, ſo drown and obſcure all the *Animal Perfections*, that they are ſcarce worthy any Notice, in compariſon of thoſe which are *Rational*, nor fit to be mentioned or named along with them. Wherefore the *Rational Life* (as I may call it, in oppoſition to the *Animal*) is moſt properly, or emphatically and by way of eminence, the true Life of *Man*, or of a Being which is an *Animal*, and at the ſame time endued with *Reaſon* and *Underſtanding*.

Now that the *Senſes* are really ſubſervient to the Uſes of *Reaſon*, and ſubject to its Rule and Governance, is undeniably manifeſt from their being continually Employed by it, according as its Service from them requires, or as it thinks proper and ſees convenient. And, as is fitting to take notice, the *Mind*, in acting like itſelf, or as becomes its *Intellectual Nature*, does not ſit ſtill, like an idle Spectator, gazing at and

amuſing itſelf with Objects that are only pleaſing and delightful to *Senſe*; and when tired and nauſeated with old ones, ſhifts the Scene, to have ſome new Diverſion and Entertainment, making the World, as it were, its Bawble and Play-thing; but it chuſes and ſingles out Objects that are the moſt ſuitable and proper for the Exerciſe of its *Reaſon* and *Underſtanding*; and contemplates and ſtudies their Natures, one after another; and therein proceeds in ſuch an order and method, that every precedent Obſervation may give ſome light and information to that which is to follow. In the doing whereof it governs and directs the *Senſes*, according as beſt ſuits its preſent Purpoſe and Occaſions; making them its Tools and Drudges; and often, againſt their Inclinations (as I may ſay) forces and compels them to do the Work and Buſineſs it has for them.

Senſe therefore, as manifeſtly appears, is, with reſpect to the *Underſtanding*, only *a Miniſterial Faculty*; or hath the Nature and Quality of *an Inſtrument*, which is ſo far only valuable and conſiderable, as it is a Thing fit to be Employ'd and made Uſe of,

of, and anſwers the Exigencies and Occaſions there are for it. And to think more highly and favourably of it, is to miſtake what is merely Uſeful, or Requiſite and Convenient, for That which it is requiſite and ſerviceable to, and hath the Command and Direction of it.

And conſequently *Senſe*, tho', as muſt be allowed, it Perceives independently of *Reaſon*; yet ſince it is employ'd like an Inſtrument, and (as was mentioned) does nothing elſe but *Perceive*, as being incapable of *Conſidering* or *Reflecting*; *Senſitive Perception* of any kind does really ſignify and amount to no more, than a bare Repreſentation of ſome corporeal Phenomenon or external Appearance, as *Colour*, *Sound*, *Taſte*, *Odour*, &c. without imparting or ſuggeſting to the *Mind* any thing of its Meaning and Importance, or telling it what Thought or Notion and Apprehenſion it ought to have of it; as ſome would fain perſuade us it does. For had *Senſe* ſuch a Talent or Ability, it would not be an Inſtrument, or Miniſterial Faculty, but ſuperior to *Reaſon*: it would be its Preceptor, or Maſter and Inſtructor. Or rather, it muſt be the

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ſame thing with *Reaſon* and *Underſtanding*; for no one imagines that the Mind hath *two Underſtandings*, or any other two, or more Faculties, which act after the ſame way or manner, or whoſe Offices and Functions are alike. But a little Obſervation and Reflection may, I think, ſatisfie any unprejudiced Perſon of the contrary, *viz.* that *Senſe* and the *Underſtanding* are really two ſeveral and diſtinct Faculties. For to give an Inſtance or two of Senſitive Perception, and of an Intellectual Notion and Conception, whereby they will appear to be eſſentially different one from the other. The *Hardneſs* of a Body is perceived by the *Touch*, as ſomething which reſiſts the Hand, or any other Part of the Body which preſſes upon it: This is its Appearance to *Senſe*, and all that is perceived by it. The Mind's Intellectual Notion of *Hardneſs* is, that it is a Property or Quality, which ſignifies that it belongs to Something, as an Affection of its Being or Nature, and depends on it for its Exiſtence, and being what it is; which is a Perception or Diſcernment that, I believe, no one will aſcribe to *Senſe*, or can think it capable

ble of. So likewiſe, when one Body, in Motion, moves another which is at Reſt, by ſtriking it: The Appearance of this to Sight, is a Body in Motion, ſtriking another at Reſt, whereupon follows a Motion in the Body which is ſtruck. The Underſtanding's Perception or Apprehenſion of this Appearance to Sight, is, that the Motion of the Body, which began upon its being Struck by another Body, was Produced in it, or Cauſed, by the other's Striking it.

But, as may be obſerved, it is not eaſy, in abundance of inſtances, ſo to expreſs a Perception of *Senſe*, as that ſome Intellectual Notion ſhall not unawares creep in, and mingle it ſelf with it: or at leaſt, we are ſeldom mindful, or take any care of our Words and Expreſſions, ſo as ſufficiently and plainly enough to diſtinguiſh the one from the other. As in the Inſtance laſt mentioned, where it is ſaid, that "the "Motion of a Body which was at Reſt, "following upon the Striking of it by an- "other which was in Motion, is perceived "by Senſe." This at firſt appearance is expreſs'd, as I may ſay, after a truly ſenſible

ble manner, or ſeems to contain nothing in it but mere Senſitive Perception. And ſo I thought my ſelf, in firſt Writing it down: Whereas, upon conſidering it, I obſerved that the Action of Striking, which here means a violent Shock or Impulſe, and implies ſuch a force or ſtrength of Motion as will Puſh or bear forwards what ſtands in its way, and is capable of being Moved by it, is not perceived by *Senſe*: all that it perceives being, that "one Body, which is at "reſt, or ſtands ſtill, is touched by ano-"ther Body which is in Motion, and that, "when Touched, it is Moved." I ſhould not ſay *moved*, but *that it moves*, or *is in Motion*: and yet the Word unawares ſlip'd from me without minding its Signification, which plainly implies an Effect. Neither is it right to ſay, "the Motion of a Body "following upon the Striking of it by ano-"ther:" for the Particle *upon*, as here uſed, denotes a Relation; and no Relation of any kind is perceptible by Senſe: and therefore, not *Motion*, and *Reſt*, conſidered as Oppoſites. 'Tis however very certain that we continually ſpeak after theſe and ſuch like manners, without ever taking the

the leaſt notice that, in ſo doing, we aſcribe to *Senſe* more than its Due, and rob the *Underſtanding* of what does properly and of right belong to it. I had quite forgot (but which by no means ought to be omitted) that the word *Body*, which ſignifies Subſtance, is almoſt conſtantly uſed as if it were perceived by our Senſes, and we ſcarce ever mention any ſenſible Object or Appearance, without either expreſsly naming it, or tacitly referring to it. Nay we ſay in ſo many Words, that "we ſee and "feel Bodies and Subſtances;" tho' *Body*, or any material Subſtance, does not fall under the Cogniſance of *Senſe*, but only of the *Underſtanding*.

Now, whether it be this cuſtomary way of Speaking, which prevails ſo much, that in mentioning or deſcribing any Senſitive Perception, we ſcarce ever fail to join along with it ſome Intellectual Notion or Conception, (and, as we find, 'tis hard, at leaſt troubleſome, to avoid doing it) in ſuch manner as if it proceeded from, or were an act of Senſe: Or whether it be the overweening Affection we bear to our Senſes; for the Love of any thing does uſually beget

get in us an Eſteem for it, far beyond its juſt and real Merit: Or whether it is, that we undervalue our Reaſon and Underſtanding, (as 'tis certain we are very apt to do) much more in proportion, than any of our other Faculties and Endowments: Or whether the Imagination has, in moſt Men, ſo much the aſcendant over their Judgment and faculty of Diſcerning, that, *in Underſtanding* what *they ſee*, they fancy *they ſee* what *they underſtand*, or ſee the *Intelligibility* (as I may call it) of an Object, which is queſtionleſs only perceivable or diſcernable by the *Underſtanding*, and does in no wiſe fall under the Notice and Cogniſance of *Senſe*; and which may happen by our ſenſitive Perceptions being followed ſo cloſe and quick by our Intellectual Notions, that they ſeem and appear to thoſe who are not wary and circumſpect enough, to be Acts of one and the ſame Faculty. Whether any of theſe Motives and Inducements, or all of 'em together, or whatever elſe there may be, which ſhould occaſion ſo great an Over-ſight and Miſtake, I ſhall not preſume to determine: but ſo in fact we find, that not only the Vulgar, or thoſe who never

never enquire into, or examine and reflect on their own Thoughts and Acts of Underſtanding; but even ſome Philoſophers, who have earneſtly applied themſelves to the Study and Meditation of the Mind's Intellectual Powers, have fallen into this ſhameful and opprobrious Error, ſo derogatory and injurious to that noble and divine Endowment, which diſtinguiſhes Men from Brutes; whoſe Perceptions are the ſame with ours, and to the full as good, tho' without their having the leaſt Underſtanding, or any Thought or Notion at all of what they Perceive. And which being now eſtabliſhed into a Principle, and made the Baſis and Foundation of all their Doctrines and Diſcourſes concerning *Rational* and *Intellectual Knowledge*, 'tis become neceſſary to refute this Error, in a full and particular manner, and ſhew *that* Senſe *is not Intelligent.*

Were *Senſe* intelligent, or did the Soul Underſtand by its *Powers of Senſation*, it would follow that a Man's *Intellects* would be more or leſs clear, and quick and ready, according as his *Senſes* are more or leſs acute in diſcerning. Whereas contrariwiſe,

we find that ſeveral who are very ſlow and dull of Apprehenſion, and even Ideots, have and always had their Senſitive Faculties in as great Perfection as any whatever. Beſides, ſuppoſing *Brutes* to be *ſenſible*, (as there is all the reaſon in the World to believe they are) Thoſe of them which excel Men in their *ſenſitive Endowments*, (as many of them do) would likewiſe excel them in Natural *Wit* and *Apprehenſion*. And yet 'tis very certain, ſo far from this, that they are wholly deſtitute of *Reaſon* and *Underſtanding*. Neither is the natural *Inſtinct* and *Sagacity* of Brutes (of which there are various Degrees in ſeveral Species of them) found to be anſwerable and proportionable to the acuteneſs of their *Senſes*, in which they likewiſe differ: Tho' doubtleſs their *Inſtinct* is not comparable to Man's *Reaſon* and *Underſtanding*, and ſo is leſs removed from *Senſe*, than the *Underſtanding* is.

Or admitting that *Senſitive Perception* were *Intellectual Knowledge* and Diſcernment; whatever is perceived by *Senſe* muſt be underſtood in the Act of perceiving it; and, beſides *Senſitive Perception*, there could be no other Knowledge of ſenſible Objects, unleſs

unleſs we ſhould abſurdly ſuppoſe *the Mind* to have two Faculties of Underſtanding. So that the moſt ignorant Perſon alive, or a very Ideot, in ſeeing and handling, for inſtance, all the Parts of a Clock, as they are put together, with their ſeveral Movements, would know the Nature of this Machine as well as He that made it, becauſe the Ideot *perceives* every thing as well. And there would be no difference between the Knowledge of an Architect or Contriver of a Houſe, and That of a mere Mechanick, who being employed in the building and faſhioning of it, according to the Directions of the Other, does conſequently ſee all the Parts of it, and their ſeveral Formations and Diſpoſitions, as well as the Architect Himſelf.

To which may be added, that the *Senſes* do not labour or take any Pains to *perceive* their Objects, unleſs by accident; as when an Object happens to be very fine or minute; and for the moſt part they perceive preſently, and in an inſtant. Whereas there is frequently great Pains and Study, and much Time required, thoroughly to *under-*

ſtand a Thing, which is eaſily, and at once, *perceived* by *Senſe.*

Again; Were *Senſe* That which *underſtands* in us, there would be no uſe of *Judgment* about ſenſible Objects, where *Senſe* fails us. We could not, for inſtance, apprehend the Nature of a *Property* or *Quality*; as, that it is a thing which cannot ſubſiſt by it ſelf, but requires a Subject to exiſt in; as, *v. gr.* the Properties of Body called *Extenſion, Solidity, Mobility*, &c. becauſe we do not *ſee* or *feel* any Subſtance or Being which hath theſe *Properties* belonging to it, or we do not *perceive* That which is *ſolid, extended*, and *moveable.* Neither could we know and underſtand what is moſt intelligible to us, and what we cannot help underſtanding; as our own Deſigns and Intentions, and the Ends we propoſe to ourſelves, in acting; becauſe *Senſe* does not perceive them. And conſequently (which is the reaſon of my mentioning This) we could not know or apprehend the Uſe or End of any thing whatever; as ſuppoſe, of our Organs of Senſation, and of the Limbs and Members of the Body, which we continually employ in

in the ſeveral occaſions we have for them; it being unqueſtionably one and the ſame Faculty, which knows and apprehends the Nature of any Deſign and Intention, conſidered as the Mind's own Act, and which underſtands the Uſe and End of any thing which is external and perceived by our *Senſes*.

It is likewiſe conſiderable, that we frequently miſunderſtand a thing, or have a falſe Notion and Apprehenſion of it, when we however *perceive* it as truly and exactly, as there is need or occaſion by our *Senſes*: of which there are ſo many Inſtances obvious to every one, that it were time loſt to give Any. And on the other hand, we make a right Judgment, when *Senſe* is miſtaken, or miſrepreſents the Object to us: As in thinking that the Moon, tho' it appears flat, is globular; becauſe when the Sun does not ſhine full or directly upon that ſide which is oppoſite to us, there is only a part thereof enlightned by it: But were the Moon flat, the Sun by ſhining, tho' obliquely, would enlighten the whole ſide.

But that which moſt plainly declares and evinces *ſenſitive Perception* not to be the ſame with *Underſtanding*, is, that every *In-*

tellectual Act hath the true Nature and Eſſence of ſuch an Act, without any regard at all being had to the Truth of *Senſitive Perception*: that is to ſay, whether the *Senſes* do repreſent an Object rightly, or not; or, which is ſtill more to our Purpoſe, ſhould its Appearance to *Senſe* have no Foundation at all of Reality, and be nothing elſe but a mere Shew and Seeming only; This makes no manner of difference, and is not material in the Caſe; it is ſtill an Act of *Underſtanding*. Thus, to conceive that *Colour* is a Property of Body, hath the true Nature of an Intellectual Act, tho', upon Examination, it ſhould be found to be no Property of it; and that this Phenomenon, call'd *Colour*, hath its Exiſtence in the Soul only.

And in conſequence hereof it is, that the *Mind*, in Examining into, or Reflecting on any of its Notions, as *Eſſence*, *Property*, *Power*, *Act*, *Cauſe*, *Effect*, and the like, which is in order to ſee whether they are in all Reſpects True, or Juſt and Right; conſiders them as in Themſelves, or abſtractly from the particular Beings or Exiſtences to which they are applicable, without

out being at all concerned or thinking it material, whether they are Applicable to them, or not: Or it weighs and is intent upon their Rationality only, without having any regard to the particular Things which they may concern, or have to do with. Whereas there is no other Conſideration to be had of the Truth or Falſeneſs of *Senſitive Perception*, but only in reference to the Objects or Things perceived; *viz.* whether or no they are really ſuch as they appear to be. And therefore, for the Diſcovering whether a ſenſible Appearance be true or falſe, it would ſignify nothing to conſider or examine into the Act of perceiving: All that can be done in the Caſe, being the comparing the ſame Object with itſelf, according as it may happen differently to affect our Senſes: as *v. gr.* the Shape of a Steeple, which at a diſtance appears Round, upon a near Approach is found to be Square. But this is not the way of finding out the Truth of a Notion: for if True, or Right, (conſidered I mean abſtractedly, and as an Act of pure Underſtanding) it can only appear to be ſo from its Rationality, or becauſe agreeable to the

Judgment and Sentence of right Reaſon, which pronounces a Thought or Notion to be Right, when conſiſtent with it ſelf, and when it hath every Thing which properly belongs to it, or ought to be included in it, and nothing that is foreign, or unneceſſary and ſuperfluous. And therefore (as was ſaid) it matters nothing, whether we are Miſtaken, or not Miſtaken, in the Senſible Appearances of Things, to which any of our Notions are applicable. Philoſophers indeed, in diſcourſing of *Cauſe*, *Effect*, *Power*, *Act*, &c. do frequently introduce the mention of Senſible Objects, and appeal to our Perceptions of them: But this is only by way of Illuſtration, and for Inſtance or Example's ſake; and is not intended to prove and declare the Juſtneſs and Rationality of theſe and other Notions. For the Rationality of a Notion does not certainly depend on any Thing it is applicable to, becauſe it may be conſidered in it ſelf, abſtractly from every Thing we perceive, or to which it is applicable; or without being applicable to any Thing.

The *Mind* alſo, upon the ſtricteſt Examination of ſome of its Thoughts and Notions,

Notions, is firmly perſuaded, and hath the utmoſt Aſſurance of their Truth and Certainty: as of the Precedency of every *Cauſe* to its *Effect*, and the Impoſſibility of any Thing's Exiſting, and not Exiſting, at the ſame time: and of the ſeveral Relations which its Notions have to one another; as that of *Part* to *Whole*, and of *Action* to a *Power of Acting*. Whereas no one can be ſo well aſſured of the Truth of any of his *Senſitive Perceptions*, but that he may reaſonably enough entertain ſome Doubt, whether, in all Reſpects at leaſt, they are really ſuch as they ſeem and appear to be.

And there is this remarkable Difference between an Act of *Underſtanding*, and the Perception of *Senſe*, even as to their outward Aſpect and Appearance (if I may have leave to uſe ſuch an Expreſſion) which is, that the Former hath a native and inherent Luſtre in it, whereby it becomes Viſible and Conſpicuous; like a luminous Body, which diſcovers it ſelf by its own proper and genuine Light: And every intellectual Act, Thought or Notion, when Right and Perfect, is, as I may ſay, Tran-

ment of their ſeveral Natures, than one who never minded his own Thoughts, nor took any Pains to recogniſe and reviſe them. And he will thereby alſo acquire a more ſure and ſteady Exerciſe of his Rational and Intellectual Faculties, eſpecially if he took Care to reduce his Notions and Acts of *Underſtanding* into a regular Syſtem, or proper and juſt Order, that ſo he may the better and more eaſily Diſcern and take a View of their ſeveral Habitudes and Relations to one another. But what advantage, would a Man reap, by Conſidering or Reflecting ever ſo long on his Acts of *Seeing*, *Hearing*, *Feeling*, &c.? Would he thereby *Underſtand* more than he did before of them; or of what he perceives by them? Or would he be able to *ſee*, *hear*, or *feel*, the better for it?

Another Conſideration is, that any Object, ſo far as it appears *Intelligible*, is regarded by the Mind, as ſomething which is fit and proper for the Exerciſe and Employment of the *Underſtanding*. Thus for Inſtance, the Matter or Frame and Proportion of the Human Body, ſo ſoon as taken Notice of, and peruſed with any degree of Attention,

Nor muſt we forget to obſerve, that Senſible Pleaſures and Delights, eſpecially if a Man abandons himſelf up to them, do very much weaken the Mind's Intellectual Powers, and blunt and dull the Edge of the *Underſtanding*. Whereas, if the Pleaſure of *Senſe* were the Pleaſure of the *Underſtanding*, it would encreaſe its Force and Virtue, and ſharpen and quicken it: for we find, that whoever takes a more than ordinary Delight in any particular Study or ſort of Learning, does proportionably make a greater and quicker Progreſs and Advancement in it; becauſe it is of the Nature of Pleaſure to animate and invigorate, and add Force and Strength to That which is ſenſible of it.

And Experience informs us, that *Senſe* is very much hurt and impaired by the violent Impreſſion of an Object. Thus the *Sight* is dim'd by the Rays of the Sun ſhining directly upon it; and the *Hearing* is dulled by very loud Noiſes and piercing Dinns. Which tho' it proceeds from the nice and delicate Structure of the Organs; yet ſince the contrary happens in the *Underſtanding*, this proves that the Soul does

not

not think by an Organ, and conſequently does not *underſtand* by its *Senſes*. For it is of the Nature of an Organ, to ſuffer and to be diſturbed, and put out of its right Tone and Temper, by the Vehemence of an Object, or when it is violently moved and agitated by it. Whereas the *Underſtanding* grows more capable, and more vigorous and active, by engaging with Objects that give it the hardeſt and moſt laborious Exerciſe; and the more it is ſtrained and agitated, the ſtronger and more powerful it grows.

And further yet; the *Senſes* do not improve or perceive the quicker and better by long Uſe and Exerciſe; or perceive the worſe for Diſuſe. For a Child hears and ſees as well as a Man: And ſhould a Man ſleep for ſeveral Years together, he would not, upon a thorough waking and rowzing himſelf, *ſee*, *hear*, or *feel* the worſe. But the *Underſtanding* grows dull and heavy and languid, by long Intermiſſion of Employment, and nothing ſharpens and quickens it, like conſtant Study and Exerciſe.

But, in the next place, to make appear the utter Incapacity of *Senſe* for *Underſtanding*.

I ſay therefore, that a corporeal Object of any kind whatſoever (and *Senſe* perceiveth nothing elſe) is no otherwiſe intelligible, than from its Significancy, or as it means, imports, or denotes ſomething that is intelligible, as not being immediately, or of it ſelf, intelligible. And which is what every one's preſent Obſervation or immediate Reflection does naturally ſuggeſt to him concerning ſuch Objects: as will evidently appear from hence; That in deſiring to know, or have our Underſtandings informed about, any Phenomenon which is new to us, or we do not yet apprehend, nor can tell what to make of it, we always naturally ask this Queſtion, and which if reſolved, we think, will ſatisfy our utmoſt Curioſity, and put an End to all our Impatience of knowing, viz. *What does it ſignify and denote*, or *what is its Meaning and Importance*? A plain indication, that the *Perception* of a corporeal Phenomenon is not the *Underſtanding* of it; and that it muſt be, as it were, interpreted, before it can be underſtood; and that the *Knowledge* of it is nothing elſe but its *Interpretation.* And indeed all the ſeveral *Phenomena* in Nature, ſo far as they appear in-

telligible to us, are (as I may call them) ſo many natural *Hieroglyphicks*, each of which hath a certain Meaning and Importance; and the Diſcovery whereof is a ſort of Interpretation; or the underſtanding them is the Knowledge of their ſeveral Meanings and Significations.

That which, in any ſenſible or corporeal Being, ſignifies or maketh it to ſignify, I ſhall beg leave to call in general *its Form*. So that, under *Form*, I would comprehend every thing perceivable by our Senſes that ſerves to ſignify and denote to us any Virtue, Power, or Capacity of ſuch a Being, any Property or Quality belonging to it, or the End and Uſe it ſeems deſigned for. And which are the only things intelligible in corporeal Objects, conſidered, I mean, nakedly in themſelves, and without their Relations to other Exiſtences which they may concern or have to do with; and conſidered as ſo many particular Beings, and not in general, under ſuch Notions and Conceptions as are alike applicable to every thing, and ſo do not declare the particular Nature of any thing. For Example's ſake; the *Form* of an Ox ſignifies *Strength*, and that

that of a Grey-hound denotes *Swiftneſs*, or a Power of moving its Limbs nimbly and with great Speed. Now ſuppoſe that an Ox could run faſter than a Grey-hound, or a Grey-hound draw and carry more Weight than an Ox; their ſeveral *Forms*, *i. e.* the Faſhion, Bulk, or Size, and the Proportion of their ſeveral Limbs, and reſpective Bodies, would be wholly unſignificant; and ſo nothing could be underſtood of either of theſe Creatures, as to the two Virtues and Abilities I have mentioned, *viz* the Strength of the One, and the Swiftneſs of the Other. So likewiſe the *Form* of the Hand (by which is underſtood not only the Shape and Faſhion, but the Number of its Parts, their Conſiſtency or Compactneſs, their being jointed, flexible, *&c.*) ſignifies and denotes that the Hand is an Inſtrument, or a Thing proper and commodious for managing, or graſping and wielding Bodies. And They who are skilled in Anatomy do always conſider the Uſe of any Part of the Body, as a thing which is ſignified and denoted by its particular Form, or Make and Conſtitution. As for the Properties or Qualities of Bodies, we underſtand

derſtand very few of them, becauſe we do not diſcover how or by what they are ſignified; becauſe the Conſtitutions of Bodies, on which they depend, are unknown to us, or not ſufficiently diſcerned by our Senſes. But were theſe thoroughly and exactly perceived by us, they would no doubt appear ſignificative and expreſſive of the ſeveral Properties and Qualities which flow from them, as their natural and immediate Conſequences; and they would, as it were, declare and notify them to us. And as to Mathematical Schemes or Figures, which are, ſtrictly ſpeaking, ſo many *pure Forms*; tho' well enough diſcerned by us, yet their Properties do not appear, immediately or at firſt View, to be ſignified by them. The Reaſon whereof is, that they ſtand in need of being demonſtrated; or made known by a Medium, as it is called. But however the Demonſtration of any Property always refers to the Significancy of the Shape or Figure; and is no ſooner underſtood, but the Figure appears ſignificative of the Property demonſtrated; and indeed the very End of the Demonſtration is to make appear ſuch its Significancy.

The

The Reaſon we aſſigned, why any corporeal Object or ſenſible Appearance is ſo far only intelligible, as it ſignifies or imports ſomething, *viz.* becauſe not immediately or of itſelf intelligible, relies and is founded on another Reaſon, namely, that nothing but what is in its Nature intellectual, can be immediately underſtood, or is of it ſelf intelligible; for conſequently a corporeal Exiſtence, which is not ſuch, can be only underſtood by its ſignifying or importing and denoting what is intellectual. And That alone is in its Nature or truly and properly intellectual, which cannot be at all *perceived*, without being at the ſame time *underſtood*; as *v. gr.* the Mind's Thoughts or Notions and Conceptions of Things, its Deſigns and Intentions, its Faculties of Underſtanding and Willing, its moral Habits called Virtues and Vices, its rational Paſſions of Admiration and Curioſity, or a Deſire of Knowledge, with whatever beſides can be attributed or aſcribed to the Nature of a Rational and Intelligent Being, or which are the proper Conſequences and Reſults of its intellectual Powers and Capacities. For that any of Theſe ſhould be at

all *perceived*, and not be immediately *underſtood*, or appear in themſelves intelligible, is a manifeſt Contradiction. Whereas the *Hand*, for inſtance, may be *perceived*, without being *underſtood*, or without one's having this Notion and Apprehenſion of it, *viz.* That " it is an Inſtrument, or a " Thing properly framed for the ſeveral " Uſes it is put to; " and a *Triangle* may be perceived, without having a Knowledge of its Properties, which is underſtanding the Nature of this Figure. So that they become intelligible, only by Means of the Notions applicable to them, and which are properly intellectual, becauſe they are Acts of the *Underſtanding*, or the Mind entertains and has them, merely by vertue of and in the Uſe and Exerciſe of that Faculty. And conſequently, take from the *Hand* the Notion of its Uſefulneſs, and conſider the ſenſible Appearance of a *Triangle*, without thinking of any of its Properties, and neither of them is intelligible, or falls under the Cogniſance of the *Underſtanding*.

And whereupon (as I may obſerve by the way) it follows that no Affection of Body can be intellectual or rational, or of the ſame

ſame Nature with that which is attributable or may be aſcribed to an intelligent Being. V. gr. *Motion*, which is the proper and ſole Act of Body, cannot be an Act of *Underſtanding*; nor any Quality of Body be a Virtue or Vice, becauſe they are not immediately or of themſelves intelligible; or they may be *ſeen* or *felt*, and yet not *underſtood*. Nor (as muſt neceſſarily follow, as being convertible) can any Act or Operation of the *Underſtanding*, or any Virtue or Vice, be a Corporeal Affection; becauſe Theſe, and whatever elſe can be aſcribed to the Mind's rational or intellectual Nature and Endowments, are immediately or of themſelves intelligible; it being a Contradiction, as was ſaid, that they ſhould be at all *perceived*, and not be at the ſame time *underſtood*, or without their appearing intelligible to That which perceives them. And therefore, for any one to ſay, that in the bare Act of perceiving any ſenſible Appearance, as in *ſeeing* a *Colour*, *hearing* a *Sound*, *taſting* a *Flavour*, &c. he underſtands them, as he does the Others, or indeed at all, is not only contrary to every one's Experience, but very ſhocking and

offenſive to *Reaſon*, and at once puts an end to all Uſe of *Thought* and *Reflection*.

Now to apply what hath been diſcourſed to the Purpoſe it was intended for: No one can ſo much as ſuſpect or imagine, that the *Senſes* do any of them *perceive* the Significancies or Meanings and Importances of their own Objects; or can deny that ſuch a Diſcernment and Apprehenſion is an Act of *Reaſon* and *Underſtanding*. And conſequently *Senſe*, tho' it muſt be allowed to *perceive* thoſe Things which are Objects of *Reaſon* and *Underſtanding*, yet it does not for all that *underſtand* them, or it does not *perceive* what is *intelligible* in them, conſidered as *intelligible*. 'Tis evident therefore that the Uſe and Office of the *Senſes*, in an intelligent Being, is, as was ſaid in the Beginning, no more than to exhibit or repreſent to it the Forms and Appearances of corporeal Beings and Exiſtences. And for the Feaſibleneſs hereof, or the Poſſibility of their doing this, without underſtanding any thing of their own Perceptions, it may I think be thus, plainly and appoſitely enough, illuſtrated and ſet forth. A Man (as is eaſy to ſuppoſe) may be able to read and pronounce

nounce the Words of a Language he knows nothing of, ſo well, that another skilled in the Language can underſtand the true Senſe and Meaning of what he reads to him. 'Tis in ſuch like Sort or Manner, that the *Senſes perceive* and repreſent their Objects to the Mind: They do not *underſtand* the Meanings of their own Perceptions and Repreſentations: but the *Mind* or *Underſtanding* knows and perceives their Meanings; or knows the Utterance of the *Senſes*, tho' they themſelves do not underſtand a Word or Syllable of what they utter.

To argue likewiſe from the Incapacity of *Senſe*, for Abſtracting, Comparing, and Reflecting; which are Acts of the Mind that have a Tendency to rational and intellectual Knowledge, tho' they be not actually ſuch Knowledge; and, from their reſpective Uſes and Qualifications, are abſolutely requiſite to the knowing and underſtanding of Things.

By *abſtracting*, I do not mean *generalizing*, or ranking things into Kinds and Sorts, (for this may well enough be refer'd to the Power of Reflection) but no more

than noting or obſerving ſeparately and diſtinctly the ſeveral Exiſtences that are found in diverſe Objects, or that meet together in one and the ſame thing. Now it is not to be ſeriouſly thought or imagined that the *Sight*, the moſt acute and buſy of our *Senſes*, does, in viewing a Globe of Braſs, perceive its round Form or Shape to be one Thing, and its ſhining yellow Colour, another, of a different Kind and Nature from it. The *Senſes* (not to be over-awed by the great Authority of ſome of their zealous Patrons and Advocates, but to ſpeak the Truth freely and impartially, and without diſguiſing or, as we ſay, mincing the Matter) are never good at perceiving any thing alone, or by it ſelf, but when they are affected by it; and what does not affect them, they ſcarce ever mind or take any notice of, and ſo it very often entirely eſcapes their Knowledge, and is as much without their Cogniſance as if it had never come before them. The *Sight*, for inſtance, is moſt affected with *Colour*, and very rarely takes notice of the *Form*, or *Shape* of a thing, becauſe it does not affect it. Whereas the *Form* is by the *Mind* and *Underſtanding* much

much more heeded and regarded, as being far more conſiderable to it than *Colour*. So that the *Sight* (were it capable of diſtinguiſhing at all) would find a greater Difference between a *blue* Globe, and a *yellow* one, than between a *Cube*, and a *Globe*, that were both of the ſame Colour. And ſo likewiſe the *Touch* would find a greater Difference between two Globes, one of which was *hot*, the other *cold*, than between the Shapes of a *Cube* and a *Globe*, becauſe more affected by *Heat* and *Cold*, than by *Shape* or *Figure*, let the Difference of the Figures be never ſo great. And it is true in Fact and Experience, that in abundance of Inſtances we take Notice of the ſhining and glaring *Colours* of Bodies, without ever minding or obſerving their *Shapes* and *Figures*; which is, when *Senſe* does as it were act alone, or as tho' we perceived like mere Animals, without making uſe of our diſcerning Faculty. But to return to the Buſineſs in hand; There is no arriving at the *Knowledge* or *Underſtanding* of any thing perceived by *Senſe*, (or indeed of any thing elſe) but by conſidering it as a particular Exiſtence, which

is

is what is here meant by *Abſtraction*. And This is a Conſideration or Thought which I believe no one will c fer to aſcribe to any of the *Senſes*. *Abſtraction*, I ſay, is abſolutely neceſſary to the framing any Notion or Conception out any thing whatever; it being im ble to know what any thing is, or to have any Underſtanding or Apprehenſion of its Nature, without regarding and co idering it abſtractly and ſeparately i every thing elſe. Thus, for inſtance, we do not conſider the *Figure* of a *Globe*, abſtractly from the *Subſtance* of which it conſiſts, as whether of *Braſs*, *Stone*, or *Wood*; and from its *Colour*, as whether *blue*, *yellow*, or *white*; we can never know the Nature or Eſſence of this Figure, or be able to make it the ſubject Matter of our Thought and Contemplation. But perhaps there is no Inſtance whatever that will better declare the Uſefulneſs and Neceſſity of *Abſtraction*, in order to the knowing and diſcerning rightly the Eſſence of a thing, than That of a Tune; which to appearance may be ſo varied and diverſified in its Modulations, by the different Manners of Performance,

or

or by only playing it on Inſtruments of ſeveral Kinds, as a Flute, and a Harpſichord, that a Man, who has not a pretty good Ear, will ſcarce be able to know it to be the Same. From which it is plain that the *Ear*, or Auditive Faculty, tho' it perceives *Sounds*, does not perceive *Melody* or *Harmony*; and that when it hears ever ſo well all the particular Sounds, or the ſeveral Notes of a Tune, it does not for all that know or underſtand any thing of its Nature, or it does not know a Tune to be a Tune.

As *Senſe* does not *abſtract*, ſo neither does it *compare*; and without Comparing it is plainly impoſſible to diſcover any Relation whatever; or indeed the Difference of any one Thing from another: ſo that if the *Senſes* do not *compare*, they can in truth diſcern no manner of Diſtinction in their Objects: but the things which are diſtinguiſhable by the *Mind* or *Underſtanding*, are to Them only ſo many naked Appearances, without their having any Knowledge or Diſcernment of their Difference. For to diſtinguiſh between any two things, in an intellectual Manner, or ſo as to have any

true

true Knowledge or Notion of their Difference, it is requiſite, after having firſt perceived them, to ſeparate them in the Mind, or to conſider them ſeparately, which is *Abſtraction*; and then to *compare* them together; which are Operations that no one can think any of the *Senſes* capable of. And as in diſtinguiſhing things, ſo in diſcerning their Relations, it is neceſſary to *abſtract* and *compare*; tho' in the latter, theſe two Acts are, generally ſpeaking, more taken notice of, becauſe more expreſs and formal. The *Senſes*, as every one's Experience may ſatisfy him, are, in *comparing*, made uſe of only as Inſtruments to ſhew and diſcover to us the *ſenſible Appearances* of the Things we have a Mind to *compare* together. When we would *compare*, for inſtance, the two Hands; we firſt look at one, and then at the other: whereupon, bearing in our Mind the *ſenſible Appearance* of each, we *compare* them together, or mutually one with the other. In which, therefore, tho' the *Sight* diſcovers to us that one Hand hath the Appearance of ſuch a Size or Magnitude, and ſuch a Make or Faſhion, and ſuch a Colour; and ſo likewiſe

ſhews

ſhews the ſame thing of the other Hand; yet the Sight does not diſcover to us their *Relation*, which is the Reſemblance of the two Hands, in Size, Make, and Colour: becauſe, as it is ſaid, it ſerves no otherwiſe than as an Inſtrument which we employ and make uſe of, to ſhew us the Things we intend to *compare* together; in like manner as a Meaſure is made uſe of, in applying it to two Magnitudes or Dimenſions, which we have a mind to *compare* with one another; or a Ballance, when we would weigh one Body againſt another. And yet (agreeably to what hath been noted) 'tis cuſtomary, nay it is almoſt our conſtant Phraſe and familiar way of expreſſing our real Thoughts and Sentiment of the Matter, to ſay, that we ſee with our Eyes the Reſemblances of things, or the Equality of two Magnitudes which are near enough to one another to be *compared* together: Tho', as I am apt to believe, no one would venture to ſay, that he *compares* with his *Eyes* or Faculty of *Sight*. We are therefore obliged from the Force of this Argument, *viz.* That the Senſes do not *compare*, to acknowledge, that they are utterly incapable of diſcover-

tue of a Man, to be a Man, or to bring the Matter more cloſe and home to him, the Statue of his Maſter, to be his Maſter, he regards it no otherwiſe than he would do any common Maſs of Stone or Braſs, that had no ſuch *Reſemblance* carved on it. He will, according to the Fable in *Æſop*, let go the *Subſtance*, for the *Shadow* or *Reſemblance*: But the learned Mythologiſt ſays nothing of his ever diſcovering the fond Error and Miſtake he had been guilty of. For however Brutes are introduced by this equally diverting and inſtructive Moraliſt, as Diſcourſing and Acting like Rational Beings; yet it would have been abſurd and incongruous to the laſt degree, that a Brute, Acting and Behaving like it ſelf, ſhould at the ſame time be repreſented as having *Reaſon*, or making uſe of *Thought* and *Reflection*.

Now ſeeing that the Natures of Things conſidered in themſelves, and their Relations to one another, do comprehend whatever is to be known and underſtood of them; and there is no apprehending the Nature of a Thing, without conſidering it *abſtractedly* from every Thing elſe; and it

is

is impoſſible to diſcover or diſcern the Relations of Things, any otherwiſe than by *Comparing* the Things related together; and foraſmuch as *Senſe* does neither *Abſtract*, nor *Compare*; it is undeniably conſequent hereupon, that *Senſe* does not *Underſtand*, or does not perceive any Thing that is *Intelligible*, as *Intelligible*, in the Objects of its Perception. What doth generally incline and induce moſt People to fancy that, in Seeing with their Eyes the Things they Underſtand, it is, with their Eyes or Senſe of Seeing, they Underſtand them, is perhaps, becauſe our Intellectual Notions and Conceptions do often ſo immediately accompany our Senſitive Perceptions, or follow them ſo cloſe and quick, that we are apt to fancy and imagine, that our Act of *Seeing*, and *Underſtanding*, is but one and the ſame Act. Whereas, to any one that will but a little Conſider and Reflect, there will appear a wide and vaſt Difference, between perceiving with our Eyes, or other Senſes, the Things that are intelligible, and perceiving their Intelligibility, which is Underſtanding them: Between Perceiving, for inſtance, That Thing which is a Property

perty or Quality, and Perceiving or Apprehending it to be a Quality: Between Perceiving the Things that are related, and Perceiving or Diſcerning their Relations. And if there be ſuch a Difference, then it is certain that, in aſcribing *Underſtanding* to *Senſe*, we commit as great an Abſurdity, as if we ſhould ſuppoſe the *Sight* to *hear Sounds*, or the Fancy and Imagination to have Judgment, or Prudence and Diſcretion.

The laſt Act of the Mind I mentioned, as requiſite to Intellectual Knowledge, (tho' it be not always or continually ſo, but only in ſome Caſes, or on ſome Occaſions) is *Reflection*; an Argument which, after what hath been ſaid, may ſeem ſuperfluous; however let it be thrown in, *ex abundanti*. Seeing that *Senſe*, as we very well know, is incapable of Reflecting, it can therefore have no Knowledge that proceeds from *Reflection*, or is no otherwiſe to be acquired than by it. Among innumerable Inſtances of the Neceſſity there is of Reflecting, eſpecially to know the Reaſon or Cauſe of a Thing, I ſhall pitch only upon one, that is ſeemingly very obvious to *Senſe*. It

is the Interception of Light cauſed by an Opake Body ſtanding before it, or its being between the luminous Body, and us. Now 'tis impoſſible to know that the Opake Body intercepts the Light, without ſecretly Reflecting, that if there were no ſuch Body before it, there would be no Interception of Light. And ſince the Eye or Senſe of Seeing does not, as we are very certain, make this Reflection, it undeniably follows that it has no Notion or Knowledge of what is meant by Interception, or the Cauſe of ſuch hindrance of Light.

Beſides theſe Arguments, there are yet two more I ſhall mention, which I believe, upon Examination, will appear to be thoroughly Evictive and indeed Demonſtrative, that *Senſe* is incapable of *Underſtanding*.

The firſt is, that *Senſe* is not *Conſcious*, or, which ſignifies alike to our Purpoſe, that the Soul is not Conſcious by its having Senſe, or from its Senſitive Endowments: and which I ſhall firſt prove, before I make my Uſe of it. That no one of the Senſes is privy to, or hath any Manner of Knowledge of the Perceptions of any other Senſe, is moſt certain and unqueſtionable. And

ſeeing

ſeeing it is undoubtedly one and the ſame Conſciouſneſs which diſcerns and takes Cogniſance of the Perceptions of all the ſeveral Senſes, as it does of the Acts of Underſtanding, Imagining, Remembring, *&c.* it undeniably follows that the Senſes, which are ignorant of one another's Perceptions, are none of them Conſcious of their own particular Perceptions; or they do not Conſciouſly know that they Perceive at all, or that the Things which they perceive are perceived by themſelves: that is to ſay, the Soul is not Conſcious of its Senſitive Perceptions, from the Endowment of Senſe. And from which it follows that the Soul cannot, merely as Senſible, take Cogniſance of any Thing it perceives, as its Object: for unleſs I conſider and regard my Perception, as my own Perception, or the Thing perceived, as perceived by my ſelf, (which to do, is the proper Act of Conſciouſneſs) 'tis plainly impoſſible that I ſhould conſider it at all, as an Object, or have any Notion or Apprehenſion of it, as ſuch. And it is as clear as the Day, that, without Conſidering or Regarding the Thing perceived, as an Object, 'tis utterly impoſ-

ſible to have any Knowledge or Underſtanding of its Nature, or indeed that the Mind ſhould in any wiſe be able to employ its Thinking Faculties about it. Now ſince the Mind or Soul, as it is endued with Senſe, is not Conſcious; and conſequently, as Senſible only, cannot conſider or regard any Thing as its Object, it undeniably follows that, in the pure, naked, and ſimple Act of *Senſitive Perception*, it cannot Know or Underſtand any Thing. 'Tis manifeſt therefore that *Senſe* is, in its very Nature, *Unintelligent*, and utterly incapable of *Underſtanding*.

Another Argument to prove the ſame, is the Impoſſibility that a Faculty or Power, which acts purely by the Help and Mediation of an Organ, and cannot be exerted or put forth into Act, without one, and that does nothing elſe but *Perceive* (which we very well know to be the Caſe of the Senſes) ſhould, in its act of perceiving, *Underſtand* what it perceives. For, in perceiving by an Organ, it can perceive nothing more, or any otherwiſe, than the Organ itſelf would perceive, ſuppoſing it had a power of Perceiving. And ſuch a Perception

ception can amount to no more than perceiving the *Appearance* of an Object, conſidered ſimply and merely as an *Appearance*. As if the Eye, which is an Organ, could perceive Colours, its Perception of them would be of ſo many naked Appearances, and nothing beſides. And as muſt be allowed, the bare *Perception* of an *Appearance* cannot include or involve in it any Intellectual Notion, as *Cauſe*, *Property*, *Whole*, *Part*, and the like; no nor ſo much as the Notion or Conception of an Exiſtency, which only imports in general, that the Thing perceived does exiſt and hath a Being, tho' we know not what it is, or do not underſtand its Nature: for even ſuch a Conception is ſuperadding ſomething to the Perception of an Appearance. So that conſider a *Perception*, without any Intellectual Notion, or any Thought whatſoever which the Mind has about it; and what remains, is a bare *Appearance*, or mere *Phenomenon*, as the Notation of the word ſeems to import, and in which Senſe it is moſt commonly uſed. And, as may not be unfitting to mention, there are frequent and continual Inſtances of our perceiving the

Appearances of Objects, without having any intellectual Notion of them, eſpecially when our Thoughts are otherwiſe attentively employed and engaged. As in Reading or Writing, tho' we ſee very well the Whiteneſs of the Paper, yet it is then nothing elſe but an *Appearance*: for we do not at all conſider it as an Accident or Quality belonging in to the Paper; nor does it enter into our Mind, tho' the more obvious Conſideration of the Two, that its Whiteneſs makes us ſee the Letters, which are Black, the better. And as to our Senſations of *Taſting* and *Smelling*, and even of *Feeling*, they are, generally ſpeaking, nothing elſe but *Appearances*, there being rarely any intellectual Notion which ever accompanies them, unleſs when we purpoſely reflect on them. And ſo likewiſe, but ſtill more plainly, in our Perceptions of *Hearing*; for it is only by our being accuſtomed to ſee or feel ſonorous Bodies, that Sounds are ever conceived or thought by us, to be *Qualities* or *Accidents*. Now ſeeing that the *Senſes*, as they perceive only by the help and mediation of Organs, can (as was ſaid) perceive nothing more than the Organs themſelves would perceive, ſuppoſing

ſuppoſing they had a Power of Perceiving, which is only an Appearance, and nothing beſides, and the bare *Perception* of an *Appearance* hath nothing *Intellectual* in it; it follows that the *Senſes*, in *Perceiving*, which is their proper and ſole Act, neither do nor can *Underſtand* what they *perceive*.

I ſhall conclude with the Inſtance of a Fact, which will be found to illuſtrate and confirm all that hath been ſaid. The *Mind*, in contemplating or conſidering any ſenſible Object, or in peruſing, as I may call it, ſuch an Object with its *Underſtanding*, when or tho' immediately preſent to *Senſe*, wholly neglects and over-looks the *Senſation* itſelf or *Senſitive Perception* of it; the *Appearance* of the thing perceived, as it affords Matter and Occaſion for *Thought* and *Reflection*, being That alone which it is intent upon, without having any the leaſt regard to the Act of perceiving it by *Senſe*. For as in looking attentively at our Image in a Mirrour, we think of nothing but what we ſee, and never conſider the Reflection of the Glaſs which repreſents it to us; in like manner the *Mind*, in contemplating ſenſible Objects, regards only their *Forms*, and

Appearances, as Things worthy of its Attention and Obſervation: But the *Perception* of them by *Senſe* is no part of its Conſideration, but paſſes without being heeded or regarded, or having any the leaſt notice taken of it. And which ſcarce ever happens to be otherwiſe; unleſs either, when the Object is ſo exceeding fine and minute that we are fain to exert and ſtrain our perceptive Powers, in order to diſcern it the better, or diſcover ſomewhat which might elſe eſcape our Notice and Obſervation; or when it makes ſuch an Impreſſion on the Organs of *Senſe* as renders the Senſation either pleaſing or ungrateful, and ſo obliges us to take notice of the Senſation, whether we will or no; or elſe, when we find the Organs to be diſordered, and that we do not perceive by them ſo well as uſually: In all other Caſes and Inſtances, we do, I believe, regard only the Objects or Things perceived, and not the Perception of them by our *Senſes*. And from which the two following Inferences are very eaſily and plainly deducible.

One is, that *Senſe* ſerves only as an *Inſtrument*. For in making Uſe of any Inſtrument,

ment, Tool, or Machine, we ſeldom or never, unleſs when we have ſome Diſtruſt or Suſpicion of its not performing rightly, obſerve or take Notice of its Operation, or the Manner thereof, but only mind the Performance it ſelf, or what is done by it: as in the Inſtance but now mentioned (by way of Simile) of a Mirrour; and which being appoſite enough to our Purpoſe, we need not give any beſides.

Another Inference is, that the *Perception* of *Senſe* cannot be *intellectual*. For it is not poſſible to know or underſtand any thing rightly, or indeed to have any ſort of Thought or Apprehenſion about it, without regarding our Knowledge and Notion of it, as the Act of our Mind, or of that Faculty by which we acquire an intellectual Knowledge of things; and without having continually an Eye to its Truth and Juſtneſs, conſidered as the Work and Performance (as I may ſo call it) of our Faculty of Underſtanding.

By way of *Scholium*, or Remark and Annotation upon what hath been diſcourſed, (as it may be of ſome Uſe to our preſent Deſign) I ſhall lay down and endeavour

vour to make good the following Propoſition, *viz.* That " there is a twofold Know-
" ledge of corporeal Beings and Exiſten-
" ces; one *Senſitive*, the other *Intellectual*,
" which do together make up all the
" Knowledge the Mind hath of ſuch Ob-
" jects.

I chuſe to call that Knowledge which proceeds from *Senſe*, and is originally owing to it, *Senſitive*, rather than *Ideal*, or the Perception of the Ideas of ſenſible Objects. For I cannot apprehend why we ſhould make uſe of the Term *Idea*, which ſignifies nothing more in the caſe than an Image or Copy, when we may as well mention and have Recourſe to the original Perception from which it was entirely borrowed and taken, and to which it neceſſarily refers for whatever is in it. It is true, that when *Senſe* does not *act*, or the Object is not preſent to it, we make uſe (as we are obliged to do) of the *Idea* in its ſtead. But the original or primary Knowledge was queſtionleſs *Senſitive*; and unleſs underſtood and allowed to be ſo, there is no making any thing of *Idea*, and the Word is an empty Sound, without having any-

any Meaning or Importance in it. Nay, 'tis certain that in making uſe of an *Idea*, we always Mean and Intend the Object it ſelf which it repreſents, as if we immediately perceived it by any of our *Senſes*.

There is, I ſay, a two-fold Knowledge of Corporeal Beings or Exiſtences: One *Senſitive*, which is the Perception and Cogniſance of that Appearance which ſuch an Object has to Senſe: The other *Intellectual*, which is always ſome Thought or Notion concerning it, and which is applicable, or the Mind thinks applicable to it: Or it is, when right and proper, what the Mind, in the due uſe of its Reaſon and Underſtanding, ought to Think of it. *Ex. gr.* The Knowledge of the Hand, by *Senſe*, is its particular Make and Faſhion, the ſeveral Parts of which it conſiſts, their being ſolid, jointed, flexible, *&c.* And the *Intellectual* Knowledge of the Hand is this Thought or Notion about it; That it is proper and commodious for the ſeveral Uſes it is put to; or that it is ſerviceable to Man its Owner, as a natural Inſtrument, which may be either made

made uſe of alone, or whereby to employ and make uſe of other Inſtruments called Artificial.

Senſitive Perception, or the ſenſible Appearance of an Object, is, as it were, the *Matter* of our Knowledge; and the Thought or Notion applicable to it, is the *Form* of our Knowledge; and by which alone it is, that the *Matter* or ſenſible Appearance becomes *Intelligible*. For as there can be no ſuch thing as a *Thought*, *Notion*, or *Conception*, (unleſs it ſhould be conſidered alone and abſtractly in it ſelf) without *Perception*, or an Object; ſo, if we take from *Perception* the Notion which is applicable, or actually applied to it, what is Perceived is no more Underſtood, nor falls under the Cognizance of the *Underſtanding*, than if it were not perceived at all. It is like a Carcaſs or dead Body, without having a Soul to actuate and inform it. And tho' particular Exiſtences are infinite, whereas our Notions are but few, yet there is no Exiſtence whatever, but what ſome or other of our Notions is applicable to; and whereby alone, as was ſaid, it becomes

Intelligi-

Intelligible. V. gr. There is an infinite Number of efficient Cauſes, and every one of them various, or with ſome Difference from another: But if we do not know or apprehend them to be ſuch Cauſes, that is, Things which produce Effects or Changes in other Things, by having a Power which is proper and ſufficient to produce them, What ſignifies it to our *Underſtanding*, that we *perceive* thoſe things which are Cauſes? Or what *Intellectual Knowledge* is acquired by *perceiving* them? They are, in ſuch caſe, as was lately mentioned, bare *Phenomena*; and we *underſtand* them no more by *perceiving* them, than a piece of Wax underſtands the Impreſſion that is made on it, or a Mirror underſtands the Images which are darted upon it. For what avails *Perception* in the caſe? when, as Experience demonſtrates, any Man, tho' ever ſo ignorant, may *Perceive* Things as well as the greateſt Philoſopher, and yet, without applying his Mind, or Power of Intellectual Diſcernment to them, may remain ſtill as ignorant of their Natures, as if he had never perceived them; or as an illiterate *Indian* would be, in poring

and looking over all the Pages of every Book in the *Bodleian* Library, from attaining any Knowledge that is contained in them. That *Perception* is neceſſary to *Underſtanding*, as being the Thing or Matter which is to be underſtood, cannot be doubted: And I think it no leſs certain, that a thing may be *Perceived*, and yet not *Underſtood*.

Now theſe two Sorts of Knowledge, *Senſitive* and *Intellectual*, do conſtitute and make up whatever the Mind knows or comprehends of Corporeal Beings and Exiſtences; there being nothing more or further knowable of them, than their *Appearances* to *Senſe*, and what the *Mind thinks* or *apprehends* of ſuch *Appearances*. However, tho' they are two Sorts of Knowledge diſtinct from each other, yet they may be conſidered together, as making one Compound which conſiſts of them Both; as every Body perceived by us, is One, tho' it conſiſts of *Matter* and *Form*, which are things wholly different in their Natures. And tho', as was noted, our Notions are but few in Compariſon of their Objects, yet this is to be underſtood only in a general

ral Way of conſidering them: for every Notion muſt be as particular as the Object it concerns, becauſe the particular Nature of any Object is always involved in the Notion which is applied to it, and conſequently the Notion muſt indeed be as particular as the Object of it.

For the Truth of this Diſtinction of the Mind's Knowledge of corporeal Objects and Exiſtences, *viz.* into *Senſitive* and *Intellectual*, I will not doubt to appeal to every Man's Experience, and his own impartial Obſervation; whether, beſides the Power called *Senſe*, of perceiving Objects under ſuch and ſuch external Forms and Appearances, he does not find within himſelf another Faculty, denominated *Underſtanding*, which ſuggeſts and imparts to him ſuch Thoughts or Notions and Apprehenſions, as appear ſuitable and applicable, or which, as he ſuppoſes and believes, ought to be applied and aſcribed to them? Or whether this Faculty of *Underſtanding* (of which he is continually conſcious) does not give him to know ſomething more of ſenſible Objects, than what mere *Senſe* imparts to him, or is capable of making him know

and

and apprehend of them? I will likewiſe appeal to any Man's Experience, who ever reflects at all upon what paſſes within his own Mind in the Exerciſe of its ſeveral Faculties, Whether he does not diſcern this manifeſt Difference between *Senſitive Perception* and *Notion*, *viz.* That in the Former there is never any Uſe made of, or the leaſt Occaſion for, *Conſideration*, which is an Act of the Mind wherein it does, as it were, conſult and adviſe with its *Reaſon* or Faculty of *Underſtanding*. Whereas there is always *Conſideration* in ſome Degree or other, joined along with, and made uſe of, in every *Thought* or *Notion* whatever, it being impoſſible to Think or have any Notion, without having the *Aſſent* (as I may call it) of the *Underſtanding* to it.

And as a further Confirmation of the Truth and Juſtneſs of this Diſtinction of Knowledge, which the Mind hath of Corporeal Objects, into *Senſitive* and *Intellectual*, I will appeal to that Judgment and Opinion which every one forms to himſelf, of the Truth or Falſhood, Certainty or Uncertainty, Perfection or Imperfection of his own Knowledge of ſuch Objects:

Objects: not doubting but that, upon conſulting his own Experience, and the Conciouſneſs he has of what paſſes within his Mind, in the Exerciſe of theſe two Faculties of *Senſe* and *Underſtanding*, he will find it to be as follows, or not materially different from it.

When a *Perception* is true, or an Object is really ſuch as *Senſe* repreſents it: And when the Mind hath that Notion of it which is properly applicable to it; then it hath a True Knowledge of it. But when either the *Perception* is wrong and erroneous; or altho' it ſhould be right, yet if the Mind's Notion is not properly applicable to it: In either of theſe two Caſes, the Knowledge of it is falſe and miſtaken. *Ex. gr.* to inſtance only in the latter Caſe; ſhould any one think that *Extention* and *Body*, are one and the ſame thing; then, notwithſtanding the *Perception* of *Extenſion* ſhould be true and right, yet, ſuppoſing the Notion of Sameneſs or Indentity to be wrong and unapplicable to them; the Knowledge of *Extention* would be falſe and miſtaken.

When the Mind is aſſured of the Truth and Reality of a *Senſible Appearance*, as ſuppoſe, that a Diamond is hard: And is likewiſe certain that *Hardneſs* is a *Quality* or *Property* of this Body, and not its very Subſtance; then is the Knowledge of it certain and free from all Doubt: So far, I mean, as *Hardneſs* and *Quality* do concern it; for, as ought to be noted, there may be a great many Notions and Conceptions applicable to one and the ſame thing, upon ſeveral Accounts, or for diverſe Reſpects and Conſiderations; each of which is an *Intellectual Knowledge* and Apprehenſion of ſo much of its Nature, as it properly concerns, and is applicable to. But when the Mind either doubts, whether the Appearance of an Object to Senſe be according to its Truth and Reality, as ſuppoſe, whether *Colour* hath a real Exiſtence, as it ſeems to have in all viſible Objects: Or doubts whether the Notion, for inſtance, of *Property* or *Quality* be applicable, or what ought to be aſcribed to *Colour*; then is its Knowledge of this *Senſible Appearance* Doubtful and Uncertain.

And

And laſtly, Were every thing perceived of a corporeal Being, which is in it, or belongs to it; as the ſeveral Parts, tho' ever ſo minute, of which it conſiſts, their particular Frame and Conſtitution, Order and Diſpoſition, with whatever beſides may ſerve to make it that Being or Thing which it is: And had the Mind proper and juſt Notions of them all: then would its Knowledge be perfect, or compleat and adequate: otherwiſe imperfect, or ſhort and defective. It need not be ſaid, that there is no ſuch perfect or adequate Knowledge of any corporeal Being, as This; and therefore mentioned only by way of Suppoſal. But the Defect or Inadequateneſs of our Knowledge of ſuch Beings, is chiefly to be aſcribed to our Want of Faculties proper and acute enough to perceive all that is requiſite and needful for underſtanding their ſeveral Natures, or whatever in them is properly an Object of Intellectual Knowledge; and which, there can be no Doubt, but that every individual Thing in the whole World is. For had we ſuch Faculties, the Mind might not perhaps deſpair of apprehending, in a good and competent Meaſure at leaſt,

whatever Things they would preſent to its View; or framing ſuch Notions and Judgments of the Appearances perceived, as would be ſatisfactory to its Reaſon, and give it that Contentment which, at preſent, it in vain ſeeks for, and there is little or no Hopes of its ever finding. For the Mind is not poor and ſcanty in its Notions and Conceptions; nor does it commonly want Skill to uſe and apply them rightly in any Inſtances where Senſe does not fail it, or when it hath proper Matter to work upon, and to employ its Thinking Faculties about.

A

DISSERTATION

CONCERNING THE

IMAGINATION.

EVERY one knows by continual Experience, that when an Object of *Senſe* is not preſent, or tho' he do not immediately perceive it, as in the acts of *Seeing*, *Feeling*, *&c.* he may have an Image or Phantaſm of it, commonly called *Idea*, in his Mind, which he can contemplate and think on juſt as he did, or might have done, the Original, in perceiving it by any of his Senſes. That Faculty which preſents to the Mind's view the Images or Ideas of external ſenſible Ob-

jects, or by which the Mind perceives them, is what we call the *Imagination*.

The Uſe of it is manifeſt; for it is a ſort of *ſecondary* or *ſubſidiary Senſe*, which ſupplies the room of the Other, and does, as it were, Act and Officiate in its ſtead. And ſeeing it is but *one*, whereas the *Senſes* are *many*, it is therefore in reſpect of them like a *common Senſe*, or ſerves them as their general Repreſentative. But, it ought to be obſerved, that it is apt in time to fade and decay, our *Ideas* being ſeldom, and but in very few Inſtances, perfect and exact Repreſentations of the Originals from whence they were taken.

But the *Imagination* hath however this conſiderable advantage over *Senſe*, that its Objects are always ready at hand. For, unleſs when our Memory fails us, we can *Imagine*, or perceive in Idea, whatever Objects or Things our *Senſes* have at any time diſcovered to us, according as we pleaſe, and as long as we have a Mind; the Uſe and Convenience whereof is exceeding great, but withal ſo obvious to every one, that to mention it is ſufficient.

And

And ſeeing, as Experience informs us, the ſame Notions or Conceptions which we had of Objects, in perceiving them by our *Senſes*, do uſually accompany their Ideas, or for the moſt part preſently recur and ſpring up in our Minds, the *Imagination* is of vaſt Benefit and Advantage on this Account. For being able to Think of the Image or Picture, in like manner as if the Original were preſent before us, we can make uſe of all our paſt Knowledge, and at any time beginning where we left off, can proceed onwards in our Enquiries, or Obſervations and Reflections: Tho' generally ſpeaking, for the Reaſon we mentioned, it is more ſafe and ſatisfactory to contemplate and peruſe the *Object* it ſelf, than its *Image* or *Idea*.

Altho', in perceiving any external Object, we are neceſſarily confined to that preciſe Appearance it has to us, in the Impreſſion it makes on the Organs of Senſation, yet the caſe is otherwiſe with reſpect to our Ideas. For without having any regard to the Appearances of Things at the time of their being perceived by our *Senſes*, we can, by our *Imagination*,

alter and vary them, as many ways as we pleaſe. We can, for inſtance, *Imagine* a Body to be much greater or leſs; or any Quality or Power, more or leſs forcible and intenſe, as we have a Mind. We can, by our *Imagination*, vary the Shape or Figure of a Thing an infinite number of Ways; tranſpoſe its Parts; and change its Situation and Diſtance, with reſpect to other Things; and make different Applications of Agents to Patients, from any we have ever ſeen or obſerved, or that perhaps are any where to be found.

And hence it is that the *Imagination*, when under the Conduct and Direction of *Reaſon*, is the Inſtrument of that noble Faculty of the Mind, called *Invention*. For tho' we often give the name or title of *Invention* to a new Diſcovery, or the finding out ſomething that was not known before, and wherein it is not neceſſary, at leaſt always, that the *Imagination* ſhould be employed; yet, I think, in ſtrictneſs the Term *Invention* is moſt properly applicable to ſome rational Work or Performance, which is diffe-

rent

rent from any thing we have perceived by our *Senſes*. Now 'tis certain that in ſuch Inventions, we always employ and make uſe of our *Imagination*; namely, by framing in our Minds an Idea different from any ſenſible Appearance: which Idea is to ſerve as the Model or Pattern of what is afterwards to be made or done according to it. And wherein it is that *Invention* differs from *Imitation* when ſtrict, or without any Variation from the Thing it was taken and copied from; for in This, the *ſenſible Object* is the Pattern; as in *Invention* the *Idea* is the Pattern.

The *Imagination*, tho' ſubject to the command and governance of *Reaſon*, eſpecially when the Mind doth with great Earneſtneſs and Application employ it for any rational End or Deſign; yet, in its ordinary way or courſe of Acting, it takes its Cue and Direction from Men's natural Tempers and Complexions, and their ſeveral Diſpoſitions and Inclinations; and by this Means becomes as different and various as Theſe are. So that it may very well be queſtioned, whether the Imaginations of any two Men in the World

are

are exactly alike, and not as different from one another, as their Features and Countenances, which are the Indexes of their Natural Tempers and Diſpoſitions. For tho' it be reaſonable to think that all Men have the ſame Ideas of ſenſible Objects, becauſe their Senſitive Perceptions, from which they are taken, are in all probability the ſame; yet there is no end of the Changes and Variations that may be made in Ideas, by Men's Imaginations operating differently in them, according to the Diverſity of their Natural Tempers and Complexions and Diſpoſitions, which perhaps do ſcarce ever exactly Agree and Tally with one another in any two Men upon the Face of the Earth. And no leſs variable than Theſe is the *Imagination*; being like the Cameleon, of which Creature it is reported, that it changes its Hue according to the Colour of the Place where it happens to be.

And which (as is proper to obſerve) doth plainly diſtinguiſh this Faculty from the *Underſtanding*; it being indiſputable that all Men do naturally Think and Reaſon alike; and that there is no other real difference

difference between the Underſtanding of ſeveral Men, but in the degree of their Capacities, or as one Man's Underſtanding is more acute in Judging and Diſcerning, and more ready and expedite in Theſe, and other its Operations, than That of another. And of which This alone is a convincing Proof and Evidence, That 'twould be impoſſible, were it otherwiſe, for Men to Underſtand or Apprehend one another's Thoughts and Meanings, as we find they do, in all Parts of the World; *viz.* by Speech, which is a Faculty common to all Mankind, whereby they Converſe and hold Diſcourſe one with another: And of which this is no doubt the principal End and Deſign. For tho' we ſhould ſuppoſe Men to agree in the Names impoſed on the Objects perceived by their Senſes, yet this would be of little or no Uſe or Commodity, unleſs they could likewiſe give Names to their Thoughts and Intentions: And if they agree in the Names or Appellations of Theſe, 'tis a certain Sign that they Think and Reaſon alike.

Some

the *Imagination* is moſt lively, and as I may ſay, moſt wakeful, and exerts itſelf with a greater Force and Activity. And becauſe at ſuch Times it acts quite alone, as having no Controul, or Curb and Reſtraint upon it, it is then moſt truly itſelf; and ſo ſhews us what Opinion we are to have of it. There is nothing ſo fooliſh and abſurd, ſo prepoſterous and inconſiſtent, or ſo wild and extravagant, that it is not then capable of. For in ſhort, it runs a-muck at every thing; never recollects itſelf, or ſtops to conſider and reflect what it is a doing; nor has any the leaſt Regard to Probability, or even Poſſibility, but couples and joins together Things that are the moſt heterogeneous and incongruous, and the moſt contrary and averſe to one another in Nature.

And ſeeing that the true Nature of any Faculty is moſt clearly diſcerned and diſcovered, by its acting alone, or when no other Faculty acts in Concert or Conjunction with it; 'tis manifeſt from Dreams that the *Imagination* and the *Underſtanding* are two different Faculties, and in no wiſe the ſame, as ſome Philoſophers have believed them to be. For allowing them to be one

and

Seeing that the *Imagination* is naturally buſy and reſtleſs, and often acts, as it were, ſpontaneouſly, or without being bidden and called upon for its Service: And ſeeing alſo that Ideas or Phantaſms, which are its Creatures and Emiſſaries, have an extraordinary Influence (as every one muſt be ſenſible) upon the Mind, in the Exertion of its Rational Faculties: Hence it comes to paſs that the *Imagination* is almoſt continually, in ſome Degree or other, hurtful and prejudicial to the *Underſtanding*. For let the Mind think never ſo cloſely and attentively, and with the greateſt Heed and Circumſpection, it will frequently, unawares, bring before its View Ideas that have little or no Relation to the Subject Matter of its Thoughts and Meditations. And which it often does in ſo ſtrong and forcible a Manner, that the Mind is in ſome ſort obliged, whether it will or no, to take Notice of them; and from the extraordinary Impreſſion they make on it, is apt to believe them pertinent, when they are not. There are perhaps few Diſcourſes, eſpecially extempore ones, or ſpoken off hand, but one may diſcern a Set of *Ideas* in them that are

are more prevalent than Others, and are, as I may call them, *favourite Ideas*, which did in ſome Degree ſway and influence the Perſons that uttered them. In a Word, according to a Man's particular Temper and Complexion, there are *Ideas* or Phantaſms which have taken Poſſeſſion of his Mind, and do in a great meaſure rule and govern his Thoughts, or at leaſt very much ſway and byaſs them; and when not ſought for, or leaſt expected, do often come athwart his moſt ſerious Meditations; and do ſo affect them, as either in ſome meaſure to divert them from the Purpoſe in Hand, or to give them a wrong and falſe Turn. But beſides the Effects of the *Imagination*, in giving the *Underſtanding* a wrong Byaſs and Inclination, and obſtructing or diverting its Operations; we ſhould likewiſe obſerve, that ſometimes it hood-winks this Faculty, or caſts a Miſt before it, ſo as to render it uncapable of diſcerning. I do not mean generally, or with reſpect to every Thing, for then it would make a Man a Fool or Ideot, but only in reference to ſome particular Caſe or Matter. For what other Reaſon or Cauſe (at leaſt immediate) can there

be aſſigned, why ſome Men, tho' otherwiſe intelligent and apprehenſive enough, ſhould, in ſome particular Thing or Things only, have ſcarce any uſe of their Underſtanding, or Faculty of Diſcernment? When all others, beſides themſelves, can, as we ſay, ſee through and through it with half an Eye. This particular or partial want of Diſcernment is commonly denominated the *Blind-ſide* of a Man: And the *Connoiſſeurs*, or ſhrewd Obſervers of Mankind, do not ſcruple to aſſert, that there is hardly any Man living but hath his *Blind-ſide*, or Sides, on which it is eaſy to hit him, and whereby he becomes liable to the Injuries or Scorn and Deriſion of thoſe who are well enough acquainted with him, to know how and when to take Advantage of it. So that upon the whole, he may be called a wiſe Man indeed, or very happy in the Frame of his Intellects, who can ſo command and keep under his *Imagination*, that it ſhall never affect or impoſe upon his *Underſtanding*. A Happineſs, which I much queſtion whether any Mortal can lay a juſt Claim to: But there are Multitudes who never ſo much as ſuſpect, that they are deluded

luded by their own *Imaginations:* And ſuch are always ſilly and weak-minded; and commonly ſo credulous in every thing; that any one may impoſe on their Belief and *Underſtanding*, as much as he pleaſes.

The *Imagination* is ſo large and copious an Argument, that a Volume would ſcarce ſuffice to treat of it particularly, and with that Exactneſs which it well deſerves; and it would require a very maſterly Wit to do it Juſtice but in a competent Degree. What hath here been offered, tho' in a groſs and ſuperficial Manner, will perhaps ſerve as a Sketch, for diſplaying the Power and Influence of Mens *Imaginations* over their *Underſtandings:* and which is all I aimed at or intended by it. I ſhall only add a Particularity or two, ſomewhat remarkable in Reference to the preſent Diſcourſe: and in the laſt Place take Notice, how that the Mind ſuffers very much in its Moral Capacities from the *Imagination:* For ſince Theſe are wholly to be aſcribed to its Rational and Intellectual Nature, 'tis evident that whatever hurts or incommodes them, can have no ſort of Pretence to *Reaſon* or *Underſtanding*.

whereof can, as I apprehend, be only this; That the *Ideas*, to which their Notions are affix'd, have, by affecting them in an extraordinary Manner and Degree, made ſo ſtrong an Impreſſion on their Minds and Spirits, that they can only think in that Road and Track which they are led into by them. And the ſtronger the Impreſſion is, the more they fancy themſelves to be in the right: and therefore whoever does not think juſt as they do, and with the ſame Earneſtneſs and undoubted Aſſurance, Him they deſpiſe, as weak-minded and inſipid, and of a mean and ſhallow Capacity.

Others again, on the other hand, have ſcarce any Thought or Notion that ſtays a Moment with them; as being continually taken up with ſome new Fancy or Conceit, which never laſts ſo long as to be reflected on, but is immediately ſucceeded by Another. And becauſe their Fancies are numberleſs, and withal very lively, and pert and uppiſh for the time, they believe themſelves to be the greateſt and only Wits in the World. Such are poſſeſs'd (as I may ſay) with a *whole Legion of Ideas*; ſome

occaſion for the Exerciſe of any other, beſides That which *Perceives*, or expoſes to the Mind's View the Objects of its *Perception.* Or, if the *Underſtanding* were nothing elſe but a *Power of Perceiving*, its being employed about what it perceives, would ſtill be no more than *Perception:* that is to ſay, it would do nothing elſe but perceive the ſame Things over and over again, or continue to keep the Object already perceived in its View, without concerning it ſelf any further about it, than to be ſatisfied that what it perceives hath ſuch a certain Appearance to it and no other, or that it hath perceived as much of it as it can. A very fine, and truly noble, and moſt worthy Exerciſe and Employment of the *Underſtanding!*

Experience likewiſe teſtifies, that the Mind does never, unleſs through Careleſsneſs and Inadvertency, exert its *Underſtanding* about any Object, until firſt ſatisfied that it hath *perceived* it thoroughly, or as much of it as its *Perceptive Power* is capable of ſhewing or making known to it. A plain Indication that the proper Buſineſs

ſineſs and Employment of the U*derſtanding* is not *Perception*, but of a different Nature from it; or that it is ſomething more than bare *Perception*.

'Tis alſo certain, that when the Mind does not as yet underſtand or apprehend a Thing, the Deſire it has, which is natural to it, of *Knowledge*, is not of ſuch as is merely *Perceptive*; for it is ſuppoſed already to have this Knowledge, and it cannot deſire to know what it already knows. Nay 'tis very certain that what it *Perceives*, is what it Deſires to *Know*. The Knowledge therefore which it deſires, and is in queſt of, muſt be ſomething that cannot be perceived, or which the *Perceptive Faculty* does not give it to know: which is ſaying, that it is Intellectual, or muſt be owing to the *Underſtanding*.

An Admiration or Wonder, which is always of ſomething not as yet known, but which we earneſtly deſire and covet to know, ceaſes and is at an end, ſo ſoon as we *underſtand* what we wondred at, or come to have a Rational Knowledge and Diſcernment of it. Now we Wonder at what we Perceive; and *Perception* always accompanies

nies our Wonder, and is ſo far from taking it away, that it continually excites it, and is indeed the only Cauſe or Occaſion of it, and therefore cannot ſurely be the Act of Underſtanding a Thing, which maketh Wonder to ceaſe.

And what the Mind is deſirous to Know and Underſtand, 'tis natural for it to conſider and reflect upon: which is certainly in order to acquire another ſort of Knowledge than that of *Perception.* For we never do, and it were Nonſenſe to think we ever ſhould Conſider or Reflect in order to Perceive; it being plainly impoſſible to Reflect at all, but upon what we do actually Perceive. And which therefore can be only Intellectual Knowledge; for there are but two ſorts, *viz. Perceptive* and *Intellectual.*

It is farther obſervable, that tho' *After-Conſideration* and *Reflection* be requiſite towards acquiring a thorough and exact Knowledge and Underſtanding of almoſt every thing we are capable of Conceiving or Apprehending; at leaſt, it is very uſeful and expedient to examine our own Knowledge, to ſee whether it be in all

reſpects true, or right and proper, Experience continually teaching us that our Knowledge is ſeldom to be depended upon, until we have firſt examined and reconſidered it: Yet there is always ſome Reflection, even for the preſent, joined along with, and which neceſſarily accompanies every Act of *Underſtanding*, or Operation of *Thinking*, tho' for the moſt Part ſo ſlight and tranſient as ſcarce to be taken Notice of; the Nature of Thought being ſuch, that it cannot poſſibly exiſt without having ſome Conſideration of itſelf, or without the Mind's having ſome regard to its Truth and Juſtneſs. Whereas, at the time of our Perceiving any thing, (let it be by what Faculty it will) we never at all Reflect on our Perception; unleſs we ſhould purpoſely ſet our ſelves to do it; and which would indeed be a Hindrance and Diverſion to any Operation of *Thinking*, eſpecially if very earneſt and intent. A plain and demonſtrative Evidence, that the Act of Underſtanding a Thing does not conſiſt in the *Perception* of it, or is not the ſame with *Perception*.

Another

Another Proof of the ſame, and no leſs cogent and evictive, is, That when our *Perception* is moſt ſure and perfect, as is the Caſe in reference to all the Operations of the Mind whatever, (for our *Perception* of them is our *Conſciouſneſs*, which cannot err or fail in any Particular;) our Judgment or Opinion of what is thus perceived, may nevertheleſs be falſe and miſtaken. We may for inſtance believe, nay take it for granted, that we Think and Reaſon juſtly, and that our Thoughts, or Notions and Sentiments, are not only ſuch as according to right Reaſon they ought to be, but All that we are capable of having, or which the Nature of the Thing affords: When, as After-reflection ſufficiently convinces us they really are not ſuch, or ſo many, notwithſtanding our Perception, as was ſaid, could not poſſibly deceive us, as being our Conſciouſneſs of them, which is always moſt ſure and perfect. And therefore, as plainly appears, the bare Conſciouſneſs even of the Acts and Operations of Thinking is not a thorough, nor always a right Knowledge and Diſcernment of their Natures. For tho' it

be true, that in being conſcious of them, they muſt needs appear Intelligible to us, becauſe they are in themſelves, or in their own Nature Intellectual, yet, as we find, it does not follow that becauſe a Thing is intellectually diſcerned, it muſt therefore be either truly, or thoroughly Known and Apprehended.

And which directly leads to and implies in it the following Remark or Reflection, *viz.* That *Perception* is by no means proper to be made uſe of, for judging either of the Truth of any Operation of the Underſtanding, or the Nature of any Thing elſe which the Mind can be employed about in Thinking: or, it is not a Rule to form a right Judgment of any Thing by. For admitting it were, 'twould be impoſſible that the Mind ſhould ever Think or Judge amiſs concerning any Object whatſoever, when its *Perception* of it is in all reſpects true and perfect: Nay indeed *Perception* would be its Judgment and its Reaſon, or whatever it is capable of Knowing or Apprehending of any Thing. And, as I may obſerve, the neceſſary Conſequence of this would be, that the

the Mind, in contemplating or meditating upon any Object or Thing perceived, would naturally conſider and regard its Act of Perceiving, as that which informed it of every thing it is capable of Knowing of it. Which is contrary to every one's Experience: For in contemplating or employing our Thoughts about any Object whatever, we never at all mind or regard our *Perception:* Neither, as was noted, would it be right ſo to do, becauſe it would hinder and divert the Courſe of our Thoughts, and we muſt ſtop on purpoſe to do it. In effect, we conſider the Object as in it ſelf, or as having a real and poſitive Exiſtence, abſtractly from our *Perception*, and independently of it: Taking it always for granted before-hand, that this is true and right, or repreſents the Thing as it really is in it ſelf; for it would be great Raſhneſs and Folly to put our ſelves to the trouble of ſtudying the Nature of a Thing before we are well aſſured that our *Perception* of it is true, or ſuch as may be depended upon. And therefore when at any time we ſuſpect our *Perception* to be wrong, we make it

our Buſineſs to diſcover and find out what the Object is really in it ſelf, before ever we go about to examine or ſearch into its Nature and Properties.

Laſtly, *Perception* is in ſome Inſtances incapable of repreſenting or affording ſuch an Object as the Mind hath need and occaſion for. And in which caſe the Mind is fain to *Suppoſe* what neither is, nor can be *Perceived*, as *v. gr.* A Mathematical Point which hath no Parts, or a Line which is pure Length without Breadth or Thickneſs. And without theſe Suppoſitions, a great many Geometrical Propoſitions could not be demonſtrated, or their Truth and Certainty could not be made appear. A plain Proof and Evidence that the *Perceptive Faculty* hath no Capacity for underſtanding its own Objects: For no one can imagine that a Power of Perceiving knows, or is a Judge of the requiſiteneſs of a Line which is pure Length, becauſe ſuch a Line does not fall within its cogniſance: And conſequently, neither can it know that a Line, which hath any Breadth or Thickneſs, is unfit to be made uſe of, or will not ſerve the purpoſe; it being

being unqueſtionably the ſame Faculty which judges of the Fitneſs and Unfitneſs of Things. And to Underſtand at all, without being able to Judge of what is fit or unfit to be made uſe of towards any rational End or Purpoſe, is a plain and manifeſt Contradiction.

From all which it is abundantly evident, that the Act of *Perceiving* a Thing is not the *Underſtanding* of it, or that ſort of *Knowledge* which is properly called *Intellectual*. And tho' it be true that the *Underſtanding* is in ſome Senſe a *Perceptive Power*, becauſe it cannot act without an Object, which always implies *Perception*: yet ſince Intellectual Knowledge or Diſcernment does not conſiſt in the Act of Viewing a Thing, or in no more than beholding its Appearance, which is the true and proper Notion of *Perception*; ſuch Knowledge therefore is not properly, or ſtrictly ſpeaking, *Perception*, but ought to be diſtinguiſhed from it (as is uſually done) by ſome other Name, as *Conception*, *Thought*, *Apprehenſion*, and the like.

To ſhew in the next place, as was propoſed, that an *Idea* is not a *Notion*: And which, when made to appear, will be a further Evidence and Demonſtration that the Perception of an *Idea* is not an Act of the *Underſtanding*. For ſince the Mind cannot underſtand any Thing without having a Notion of it; and its Notion of a Thing is really That which it underſtands of it, and whereby alone it can have any Intellectual Knowledge and Diſcernment of any Perception of what kind ſoever; 'tis evident, if ſo be an Idea is not a Notion, that, in the bare Act of Perceiving an Idea, the Mind can have no Notion at all; that is, in other Words, it can have no Underſtanding, or Intellectual Knowledge and Diſcernment of what it perceives.

By an *Idea* (according to the common and moſt uſual Signification of the Word) I mean the *Image*, *Picture*, or *Repreſentation in the Mind of a ſenſible Appearance, or of an Object which hath before been perceived by Senſe*. To which ſenſible Appearance therefore the *Idea* neceſſarily refers, for whatever is in it, or upon any account

account can be aſcribed to it, and it ſerves, or is made uſe of in its ſtead, for the Mind to contemplate or employ it ſelf about in Thinking, at ſuch time when the Object it ſelf, which it repreſents, is not immediately perceived, as in the Act of *Senſe*. And which I thought convenient to premiſe, becauſe Mr. *Locke*, the Author of this new Doctrine or Opinion, that *the Perception of an Idea is an Act of Underſtanding*, (the firſt at leaſt that introduced it among us, and to whom is owing all its preſent Credit and Succeſs in the World) He, I ſay, makes Ideas to be of two Sorts, One of *Senſation*, or of ſenſible Appearances; the other of *Reflection*, by which he means all the Operations of the Mind whatſoever. Theſe laſt, 'tis plain, do no ways concern the Argument before us. For an *Idea*, according to his own Account of it, "is "an Object, or Something Perceived, and "about which the Mind is employed in "Thinking." Wherefore if *Perception*, (ſuppoſe) which is an Operation or Act of the Mind, ſhould it ſelf be conſidered as an *Idea*, (and under this very Title

Mr.

Mr. *Locke* treats of *Perception*) then one *Idea* would be the Object of another *Idea*, and there would be an *Idea* of an *Idea*, or an Object of an Object, and one *Idea* would perceive another *Idea*, which, as I conceive, there is no making any tolerable Senſe of. And indeed (as I may occaſionally take Notice) in explaining or declaring the Operation of any Faculty whatever, to give it the ſame Name and Appellation (as he hath done) with the Object it ſelf about which it is employed, and which there is a Neceſſity of conſidering and having recourſe to, in order to ſet forth the particular Quality and Nature of the Operation, and the preciſe manner of its concerning or having to do with the Object, ſeems very inconſiſtent and irreconcileable with ſuch a Purpoſe and Deſign. But even allowing the Operations of *Thinking* to be *Ideas*, as Mr. *Locke* makes them to be, they do not fall under the preſent Diſquiſition, becauſe to *Think*, or to have a Thought, is certainly to have a *Notion*. As to *Ideas* of *Senſation*, Mr. *Locke*, in ſeveral Places of his Eſſay, ſeems to mean and intend indifferently,

differently, either the immediate Appearance of an Object to Senſe, or elſe its Image in the Mind which ſerves afterwards in its ſtead. It is this laſt only that the ordinary cuſtom and uſage of Speech allows us to call an *Idea:* And which alone are to be conſidered at preſent, having already ſpoken of the former, ſo far as was needful to our Purpoſe, in the foregoing *Diſſertation* about *Senſe:* And it is what he himſelf moſt frequently calls an *Idea*, in diſcourſing of ſenſible Objects, or the external Appearances of Things to *Senſe.*

Seeing then that an *Idea* ſignifies and imports nothing elſe or more than the Image, Picture, or Repreſentation in the Mind of a ſenſible Object; as *v. gr.* in ſaying the *Idea of a Colour*, of a *Sound*, a *Taſte*, *Odour*, or any *Tactile Quality*; and which, by repreſenting it, ſerves in its ſtead for the Mind to employ it ſelf about in Thinking. And foraſmuch as by a *Notion*, (according to the common and moſt famous Acceptation of the Word, and as it hath always been accuſtomed to ſignify, 'till of late) is meant what the Mind thinks,

thinks, conceives, or apprehends of a ſenſible Object or Appearance; as *v. gr*, the Notions of *Exiſtence*, *Unity*, *Eſſence*, *Property*, *Cauſe*, *Effect*, *Whole*, *Part*, the Uſe or Deſign of a Thing, its *Rectitude*, *Perfection*, and the like; it is evident at firſt Sight, that none of them are *Images* of the things of which they are *Notions*. For indeed what can be more ſtrange and odd than to fancy, that what a Man *thinks* or *apprehends* of a ſenſible Object ſhould be nothing elſe but the *Picture* or *Image* which he has of it, before him in his Mind? At this rate, the Mind's Act of thinking muſt conſiſt only in obſerving and taking Notice of the *Idea*, as an *Image* or *Reſemblance* within itſelf of the Object to which it refers: Which is contrary to all Experience, as well as ſhocking to Reaſon, or any Knowledge and Apprehenſion we have of the Nature of a Rational and Intellectual Faculty.

Nor can a *Notion* of any kind be ſaid to ſerve, or be made uſe of, inſtead of the *Object* of which it is a *Notion*; which is another Conſideration belonging to *Idea*. For an *Idea*'s ſerving inſtead of the *Object*, which

which it repreſents, manifeſtly implies that this is not preſent to *Senſe*, but is departed, or that it diſappeared before the *Idea*, which repreſents it, made its Appearance to the Mind. And conſequently, ſuppoſing a *Notion* and an *Idea* to be the ſame, or the Mind's *Notions* of ſenſible Objects to be their *Ideas*, the Mind could have no *Notion* of any Object at the time of perceiving it by *Senſe*. Which is likewiſe contrary to Experience; for there is not any *Notion* whatever but the Mind has, or may have it, at the very time when the Object which it concerns is immediatly perceived by *Senſe*, or is now actually preſent to it.

But to argue more cloſely and particularly, from the requiſite Qualification and natural Habitude of a *Notion*. 'Tis moſt certain that every *Notion*, as ſuch, is and muſt be applicable to ſome thing or other; or, it is what the *Mind* in the uſe of its *Reaſon* and *Underſtanding* thinks ought to be aſcribed and attributed to the Object or Thing which it concerns. And the Application or Attribution of any *Notion* is agreeable to, or after the way and manner of Speech, called *Affirmation*; as in ſaying, that

that ſuch a thing is a *Cauſe*, *Property*, *Part*, *&c.* For in having the *Notion* of *Cauſe*, as applied to any particular thing, we always think or apprehend that That Thing, to which it is applicable, is a *Cauſe*. But it were a Contradiction to ſay that That Thing, which I conceive to be a *Cauſe*, (ſuppoſed to be external) is its Image or Picture and Reſemblance within my Mind, *i. e.* its *Idea*.

And every *Notion* is, as ſuch, declarative of the Nature of the thing to which it is applicable; and which is indeed the only Ground or Reaſon of its Application: As in ſaying, for Inſtance, ſuch a thing is a *Property*, an *Effect*, a *Relation* or a *Circumſtance*, that it is *Good*, *Evil*, or *Indifferent*, &c. Or a *Notion*, when applied to any thing, does ſet forth, and, as it were, notify to the Mind, what it is; ſo far, I mean, as the Notion reaches and extends. But certainly the *Idea* or Reſemblance of a thing does not inform us what it is, any more than the thing it ſelf, *i. e.* the Original, which the *Idea* repreſents; which cannot declare its own Nature, or tell us what we ought to think of it, unleſs it had a Tongue

Tongue to ſpeak with, and did know and underſtand it ſelf.

Moreover, ſince the Mind, in having a *Notion* of any Object which is not preſent to Senſe, does make uſe of its *Idea* in its ſtead; ſuppoſing a *Notion* to be an *Idea*, there will be two *Ideas*, i. e. two Reſemblances of one and the ſame thing. *Ex. gr.* In thinking that *Extenſion* is a Property, there will be two *Ideas* of *Extenſion*; namely, the *Image* or Reſemblance of its *ſenſible Appearance*; and the *Image* (let it be ſo called) of *Property*. Whereas it is moſt certain, that no one ſenſible Appearance does ever convey to the Mind any more than one *Image* or *Reſemblance* of it ſelf.

And whereupon it follows, (which is no unuſeful Obſervation, for it will ſerve plainly to diſtinguiſh a *Notion* from its *Object*) that when one ſingle or individual Object of *Senſe* hath two ſeveral Appearances to the Mind, they cannot both be *Perceptions of Senſe*; and conſequently one of them muſt be an *Intellectual Notion*, if I may have leave to uſe the Word *Appearance* in this Caſe, inſtead of a better. For inſtance, ſuppoſe that, beſides the *Appearance* of *So-*

lidity, which means a Body's reſiſting and hindring another Body from poſſeſſing its Place, till it has left it, there is this other *Appearance*, viz. that *Solidity* is a *Property* of *Body* or *Matter*. The firſt of theſe *Appearances*, (for *Perception* always precedes *Notion*) we know, and are very certain, is perceived by *Senſe*. And therefore the *Appearance* of a *Property* is not perceived by it; but is cogniſable only to the *Underſtanding*: For that one individual Object of *Senſe* ſhould have two ſeveral Appearances to it, at one and the ſame time, is a manifeſt Contradiction. And ſeeing that an *Idea* (as is allowed) doth contain nothing more in it than was before perceived by *Senſe*; *Property* therefore is no *Idea*, but a *Notion* or *Intellectual Conception*.

That an *Idea* and a *Notion* are not the ſame thing, will further appear by Conſidering, that they are not derived from, or owing to the Objects they both concern and refer to, in the ſame way or manner. How or by what means an *Idea* comes to exiſt in the Mind, and there remains ready to be made uſe of on all Occaſions, is difficult and perhaps impoſſible to be explained, to

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any ſort of Satisfaction. And this Conſideration alone is ſufficient to evince that their Derivation, or Production and Origination, cannot be the ſame; becauſe we certainly know, and indeed cannot help knowing, very particularly and exactly, how and after what manner our *Notions* are owing to the Objects of them; as namely, thus. The Mind, in contemplating any ſenſible Object or Appearance, regards it as the Subject matter about which it is employed in thinking: And what it diſcovers and apprehends by the uſe of its Underſtanding, it applies or deems applicable to it. And ſeeing it is impoſſible that the Mind ſhould have any *Thought* or *Notion*, unleſs there be an *Object*, *i. e.* ſomething to employ itſelf about in *Thinking*; therefore the Mind's *Notions* are all owing to the *Objects* of them: And may likewiſe, after a ſort, be ſaid to be derived from them; becauſe they are always, at firſt, appropriated to them; and as particular and determinate as the very *Objects* themſelves are. However, as ought to be obſerved, the *Objects of Senſe* are not properly the *Cauſes*, but no more than the *Occaſions* of the Mind's

Thoughts or *Notions*; in as much as no *Notion* whatever, as, *v. gr. Exiſtence, Unity, Eſſence, Property, Whole, Part*, &c. is derived from the *Object* as a neceſſary conſequent of its *Perception*; and therefore can proceed only from the *Underſtanding*, which ſuggeſts them to the Mind, as ſomething that does not occur to the *Perception* or Cogniſance of *Senſe*. But, as we may note by the way, it were abſurd to think that an *Object*, or what is perceived, which hath its Exiſtence, as is here ſuppoſed, independently of the Mind, ſhould proceed from a Power of perceiving it. Now it's evident that if Notions, and Ideas, are not (as hath been ſhewn) derived from or owing to the Objects which they concern in the ſame way or manner, that they muſt needs differ from one another in their Kind or Nature: For a different manner of Derivation, or Production and Origination always neceſſarily implies, that the things produced and derived muſt differ from one another, according to it: And otherwiſe, indeed no manner of reaſon could be given why things ſhould differ at all in their Natures and Properties, as we find they do.

Mr. *Locke*, no doubt, took it for granted, that a *Notion*, and an *Idea*, are both derived from the *Objects* they refer to, in the ſame way and manner. For, over and over again, he mightily inſiſts upon this, "That external material Things, or the "Objects of Senſation, are the Originals "from whence all the Mind's Ideas" (*i. e.* according to him, all the Mind's *Notions*, as well as *Images*) "of ſuch Objects are "derived and take their Beginnings." And he continually urges it as plain and undeniable Evidence, (and as far as I remember, it is the only Proof or Argument he offers to make appear) "that the Mind's "Thoughts or Notions are nothing elſe "but Ideas;" not being aware, that the Way or Manner of their Derivation and Beginning being wholly different, 'tis impoſſible they ſhould agree, or be the ſame, in their Kind and Nature. And ſeeing that this his Doctrine and Opinion is at preſent very current, and paſſes unqueſtioned by moſt of his Readers, it will not be amiſs to ſhew that it is falſe and ill-grounded, by ſuch other Arguments as the Nature of the thing affords.

Firſt then, ſuppoſing an *Idea*, and a *Notion* to be in the ſame manner derived from the *Objects* of *Senſation*, or the ſenſible Appearances of external Objects, it will follow that a *Notion* can be only applicable to the Original *Perception* by *Senſe*, and not to the *Idea* which repreſents it, and in whoſe ſtead it ſtands; becauſe the very Eſſence of an *Idea* (as is agreed on all hands) conſiſts in that Relation it has to the original or primary *Object*, namely, in being its *Picture*, *Image* or *Reſemblance*. Which is contrary to every one's certain Knowledge: For a *Notion* is as well applicable to an *Idea*, as to the *Object* which it repreſents. *Ex. gr.* Whether I look at a whole or compleat Circle with my Eyes; or contemplate its *Idea* in my Mind; the *Notion* of *Wholeneſs*, which imports that it hath all the Parts of which it ought to conſiſt, or which ſerve to conſtitute and make it that ſort of Figure which it is, is alike applicable to them Both; tho' primarily to the original Circle perceived by Senſe, and, only by its Means, to the *Idea* or Copy of it in my Mind: Otherwiſe indeed, the Mind could have

have no *Notion* at all of any thing that is not immediatly preſent to *Senſe*.

And for the ſame Reaſon, *viz.* becauſe the Eſſence of an *Idea* conſiſts in that Relation it has to the original *Perception*, as its *Copy* or *Repreſentation*; the Truth of a *Notion* (ſuppoſing a *Notion* to have the ſame Derivation with an *Idea*) can conſiſt in nothing elſe but in being exactly conformable to the original Appearance to Senſe. Whereas a *Notion*, if true, *i. e.* properly applicable to ſuch an Appearance, is alike True, or as properly applicable to its *Idea* in the Mind. Otherwiſe, it would be impoſſible to have any true or right *Notion* of any kind, when the *Object* it ſelf is abſent, or when the *Idea* is made uſe of in its ſtead.

And ſeeing that a *Notion* is as well applicable to an *Idea*, as to the *Object* it repreſents and ſtands for, and muſt indeed of neceſſity, in the Act of Thinking, be applied to its *Idea*, when not preſent it ſelf to Senſe: Suppoſing the Mind's *Notion* of a ſenſible Object to be derived from it, in the ſame way or manner that its *Idea* or Repreſentation is; it will follow (a *Notion*

and an *Idea* being the ſame thing) that there will be an *Idea* of an *Idea*, or a *Notion* of a *Notion*; or, if you pleaſe, either a *Notion* of an *Idea*, or an *Idea* of a *Notion*, for any one way will ſerve as well as another; it being certain that every *Notion*, and every *Idea*, is a *Notion*, and *Idea*, of ſomething or other.

It is further conſiderable, that the *Idea* of a ſenſible Object does never (unleſs in Caſes that do not concern the preſent Conſideration) vary from it ſelf, but continues always the ſame. My *Idea*, for inſtance, of *Extenſion* is always invariably the ſame, or there is never any other *Idea* ſubſtituted in its Room. Whereas I may have a different *Notion* of it, at one time, from what I had at another: For I may at preſent think it to be the *Eſſence* of Matter, tho' ſome time ago I took it for a *Property* of it. Which could not poſſibly happen, were the *Notion* of *Eſſence*, or *Property*, and the *Idea*, *i. e.* the Image of *Extenſion* in my Mind, derived in the ſame manner from the Original Perception.

Laſtly, an *Idea*, conſidered as an *Object* of *Thought*, and which is its proper Conſideration

deration with Regard to any Uſe that is made of it in Thinking, does not, in ſtrictneſs, admit of Truth or Falſhood; for it were abſurd to imagine that an *Object*, *i. e.* what is perceived, ſhould, conſidered merely as ſuch, be either true, or falſe. But a *Notion* always is, and muſt be, either true or falſe; and that in two Reſpects: *Firſt*, it is true or right, when ſuch as according to right Reaſon it ought to be: And *ſecondly*, when properly applied; for tho' it ſhould be right in it ſelf; yet, if wrongly applied, it would be a falſe *Notion* in reſpect of the thing whereto it is applied.

And which (as may be obſerved) evidently implies that a *Notion* proceeds from the Mind, in its Act of Thinking; there being nothing but Thinking or Thought, which always conſiſts of or includes a *Notion*, and Speech conſequent upon it, or which ſerves to expreſs it, that ſtrictly and properly ſpeaking is either true or falſe. And becauſe a *Thought* or *Notion* proceeds from the Mind as its own Act; whereas an *Object* or what is perceived cannot (as hath already been ſaid) proceed from a Power of perceiving it; therefore it is, as I may note,

that, tho' we continually ſay, This is my *Thought* or *Notion* and *Apprehenſion*; yet no one ever ſays, This is my *Object*, but rather, ſuch an Object is what I now think on, or ſuch a thing is the *Object* of my preſent Thoughts; all *Objects* being in common to every one; but a Man's *Thoughts* peculiarly his own. And for which reaſon alſo it is, (at leaſt the chief and principal) that we give different Names to our *Notions*, and to the *Objects* of our ſenſitive Faculties. *Ex. gr. Property*, *Quality*, or *Affection*, is the Name of that *Notion* which is generally applied or aſcribed to any ſenſible Appearance; which, conſidered only as ſuch, is denominated, *Colour*, *Figure*, *Solidity*, *Extenſion*, *Motion*, &c. Whereas we give to the ſame *Objects*, tho' perceived by different Senſes, the ſame Names: *v. gr. Extenſion*, *Figure* and *Motion*, whether perceived by the *Sight*, or by *feeling*, are ſtill called *Extenſion*, *Figure* and *Motion*. To make therefore an *Idea* to be both the *Object* of thinking, and *Thought* it ſelf, *i. e.* a *Notion* or what the Mind thinks, as Mr. *Locke* hath done, is plainly contrary to Mens common and natural Apprehenſions of

of *Object* and *Notion*: And for any one to ſay, that he *Thinks* an Object, as he thinks his own Thought or *Notion*, carries a ſtrange and unnatural abſurdity in it.

Mr. *Locke* having made the *Perception* of an *Idea* to be an Act of *Underſtanding*, was of courſe obliged, as I may here occaſionally Remark, to make a *Notion* to be nothing elſe but an *Idea*: For admitting the *Perception of an Idea* to be *an Act of Underſtanding*; and ſuppoſing, at the ſame time, an *Idea* not to be a *Notion*, 'tis evident that the Mind, in the bare *Perception of an Idea*, would *underſtand*, without having any *Notion* of what it *underſtands*, which is a Contradiction. And therefore, he never at all diſtinguiſhes between the *Idea* (properly ſo called) of a *Colour*, *Sound*, *Taſte*, *Odour*, &c. and the *Idea* (as he thinks fit to call it) of a *Cauſe* or *Effect*, of *Eſſence*, *Property*, *Whole*, *Part*, &c. but confounds them together; as if the *Notion* of a *Cauſe*, for Inſtance, were nothing elſe but the *Image* or Reſemblance of that ſenſible Appearance which the Mind thinks or conceives to be a *Cauſe*; in like manner as the *Idea* of

of any *Colour* is the *Reſemblance* within it ſelf of its appearance to *Senſe*, and nothing more. And to ſatisfy his Readers that this was his true Meaning, and leſt any manner of doubt or queſtion ſhould be made of it: At the beginning of his Treatiſe, in ſettling the Signification of the term *Idea*, as he afterwards intends to uſe it on all occaſions, he makes it to be Synonymous, or equivalent with *Phantaſm*, *Notion* and *Species*: from which it is plain that by a *Notion* he means nothing but a *Phantaſm* or *Species*, *i. e.* a viſible Appearance within the Mind, preſented to its view by its *Perceptive Faculty*; for the word *Notion*, before this his Appropriation of it, was never uſed in our Language to ſignify a *Phantaſm*, or the bare Appearance and Repreſentation of any Object in the Mind. And to the ſame purpoſe, in ſpeaking of the *Ideas* of *Senſation*, as *Blueneſs*, *Whiteneſs*, *Hardneſs*, *Softneſs*, &c. he tells us with a particular Emphaſis, or with a Deſign that what he ſays ſhould be taken Notice of, that *they are in the Underſtanding*. And what he means by being in the *Underſtanding*,

derſtanding, he has taken care to inform us by ſaying, If theſe Words, *to be in the Underſtanding* have any Propriety, they ſignify to be *underſtood*; and that, *to be in the Underſtanding, and not to be underſtood*, is all one as to ſay, any Thing is and is not in the *Underſtanding*. 'Tis manifeſt therefore, that the bare Preſence in the Mind of any *Idea of Senſation*, is, according to him, that *Notion* or *Intellectual Conception* which the Mind hath of the *Object* which it repreſents. And to quote but one Paſſage more among a great many wherewith his Treatiſe every where abounds; After having ſum'd up all he had been diſcourſing concerning *ſimple Ideas*, he concludes thus, "Methinks the "*Underſtanding* is not much unlike a "Cloſet wholly ſhut from Light, with "only ſome little Opening left to let in "external viſible Reſemblances, or Ideas "of Things without: would the Pictures "coming into ſuch a dark Room but "ſtay there, and lye ſo orderly as to be "found upon occaſion, it would very "much reſemble the *Underſtanding* of a "Man, in reference to all Objects of "Sight,

the *Imagination*, as hath been ſhewn, does very often officiouſly, or when not called upon for its Service, preſent to the Mind's view, and even obtrude upon it, *Ideas* that are wholly impertinent, and have no manner of relation to the ſubject Matter of its Thoughts and Meditations. And when not under the immediate Conduct and Direction of Reaſon, (which happens whenſoever the Mind doth not employ it for ſome rational End or Purpoſe) it acts inconſiſtently with any Notion we have of an *Intellectual Faculty*; nay frequently in direct Oppoſition, and with great Damage and Prejudice to that Way or Manner of Acting which we know, and are conſcious to our ſelves, is natural and proper to the *Underſtanding*. From which, and other Proofs and Inſtances lately mentioned, (to which we refer) 'tis evident that the *Imagination*, or a Power of perceiving Ideas, is in its Nature *Unintelligent*; and conſequently does not *underſtand* what it *perceives*: which is tantamount to ſaying, that *the Perception of an Idea is not an Act of Underſtanding*.

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To the Obſervations already made to this Purpoſe, I ſhall here add two more. One is, that the Pleaſure of the *Imagination*, or of that *Perception* which is merely *Ideal*, is not *Intellectual*; as being (according to every one's Experience) nothing elſe but Novelty and Variety, or the Rumination upon what was delightful to *Senſe*: Or, it is not the ſame Pleaſure with that of the *Underſtanding*, which conſiſts in having due, or proper and juſt Notions and Apprehenſions of Things, and in contemplating or employing it ſelf about thoſe Objects which are moſt worthy of a rational Regard and Conſideration; as *v. gr.* the *Cauſes* of Things, more eſpecially the Nature of a *firſt* or *ſupreme Cauſe*; and what is *Eternal* and *Inviſible*, rather than *Temporary* and *Senſible*. This, tho' but a Circumſtance, is however very material in the caſe: For if the Pleaſure which accompanies any Act or Operation whatever, or is conſequent upon it, be not *Intellectual*, 'tis a ſure and infallible Token that the Act it ſelf is not *Intellectual*.

Another Obſervation is, that *Ideal Perception* continually fades and decays; or, the

the *Imagination* of a Thing is never ſo freſh and lively, in proceſs of time, as it was at firſt, even tho' the Mind ſhould repeat it ever ſo often. Whereas an Act of pure *Underſtanding*, or ſuch as is merely and ſimply *Intellectual*, does never fade or abate in the leaſt. *Ex. gr.* The Thought or Apprehenſion that every *Cauſe* precedes its *Effect*, or that it is impoſſible for any thing to exiſt and not exiſt at the ſame time, continues as ſtrong and vivid ever afterwards, as when it firſt entred into the Mind: Nay, it rather gathers new Force and Strength, than ſuffers any Decay or Diminution, by growing (as I may ſay) old in the Mind, or long abiding in it.

To conſider likewiſe *Ideal Perception*, as it ſtands related to *Senſitive Perception*; and which is its principal Conſideration with regard to any Knowledge the Mind hath by it; 'Tis moſt certain and inconteſtable that it oweth its Exiſtence to it, and is, whatever it is, purely and ſolely by its means; ſo that, when compared with *Senſitive Perception*, it is no more than a *borrowed* or *ſecond-hand Knowledge*, as being entirely derived from it, and having

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ing nothing which is properly its own, but being beholden to it for whatever is in it, or upon any Account can be aſcribed to it. This, I believe, was never yet diſputed, or called in queſtion by any one: becauſe not only the Nature and Reaſon of the Thing plainly ſpeaks and declares it to be ſo; the *Imagination* being nothing elſe in the Caſe but the *Mimick of Senſe*; but it is what every one's Experience, as ſoon as conſulted, muſt thoroughly convince and aſſure him of. For in perceiving, or viewing and beholding in our Minds the *Idea* of any ſenſible Object, what more do we Know or Apprehend than we did before in perceiving the Original by *Senſe*? No one can ſuppoſe or imagine that the Act of perceiving an *Idea* does impart to him more Knowledge, or afford any other ſort of Knowledge than he had in the *Senſitive Perception* of the Object to which it refers: Or will deny, that generally ſpeaking, it is more ſatisfactory, as being far more Serviceable and Conducive towards any rational Purpoſe or Enquiry, to contemplate the *Original* than the *Copy*; becauſe this is very often but an imper-

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fect Repreſentation, and ſometimes not faithful and exact, ſo far as it reaches. And as we may *perceive* an *Object* by our *Senſes* without *Underſtanding* it, or framing any *Intellectual* Notion or Conception about it; the ſame is likewiſe true of the *Perception* of its *Idea.* And whatever Conception we have of any *Idea*, the like we either had, or might have had, of the *Object* it repreſents, at the time of our perceiving it by *Senſe*; it being certain that, tho' in *Thinking* of any Object when abſent, that is, in making uſe of its *Idea* in its ſtead, we may have ſome new *Notion* about it we had not before, but which eſcaped the Diſcernment and Apprehenſion of our *Underſtanding*; yet the ſame *Notion* might have occurred to us, as well in contemplating the *Original*, as in afterwards viewing and peruſing its *Idea.* For Inſtance; Tho' in thinking of the Sun when abſent from my Sight, I ſhould conceive that it was deſigned for the Comfort and Benefit of the Creatures which inhabit this World: Or that, unleſs ſupplied with freſh Matter, it will in time very much decreaſe in its Bulk, and

at laſt dwindle to nothing, becauſe it continually loſes ſome of its Subſtance or Matter in the Emiſſion of Light: yet no one will pretend but that I might have had the very ſame Notions and Apprehenſions of the Sun at the time of my beholding and looking at it with my Eyes. So that the *Perception* of an *Idea* hath no manner of advantage over *Senſitive Perception*. And to imagine otherwiſe, or to think that it is only in perceiving the *Idea* of an *Object*, we *underſtand* it, and not in perceiving the *Original* by our *Senſes*; this is Suppoſing or Imagining that, in order to *underſtand* any *Object*, for inſtance, of *Sight*, we muſt, after having a while looked at it, or peruſed it with our Faculty of *Seeing*, ſhut our Eyes to contemplate it in its *Idea*: which is fond and ridiculous.

Now it hath, in the foregoing Tract, been ſufficiently and abundantly evinced, That *Senſitive Perception* is not *Intellectual*, or that we do not *Underſtand* any thing in the Act of *Perceiving* it by *Senſe*: Wherefore, neither is the *Perception* of its *Idea Intellectual*, or an Act of *Underſtanding*. The

The ſame Argument may likewiſe ſerve, another way, but to one Purpoſe and Effect; as thus. Either the *Perception* of an *Idea* is the ſame with *Senſitive Perception* (as Mr. *Hobbes* makes it to be, and to differ only in point of Clearneſs and Certainty) or it is not the ſame. If really the ſame, then it follows that *Senſitive Perception* not being an Act of *Underſtanding*, neither can the *Perception* of an *Idea* be ſuch an Act. But if theſe two Acts differ, and *Senſitive Perception* be not *Underſtanding*, but only *Ideal Perception*; then it will follow that, at the time of our *perceiving* an Object by our *Senſes*, we can have no *Underſtanding* or *Intellectual Knowledge* of it; which is contrary to Experience. Mr. *Locke*, tho' he allows the *Perception* of an *Idea* to be wholly different from *Senſation*, or the *Perception* of the *Object* it ſelf by *Senſe*, yet he indifferently aſcribes *Underſtanding* to them Both: Which (as I may take occaſion to obſerve) is being guilty of a double Error and Miſtake: One, in aſcribing *Underſtanding* to either of them; the next, in aſcribing it to them Both: For

the Soul being a ſpiritual or incorporeal Subſtance, 'tis impoſſible it ſhould have Two, or any more Faculties than One, of a ſort; as two *Wills*, two *Memories*, two Senſes of *Seeing*, two of *Hearing*, &c. Tho' the Caſe may be, and we find is, otherwiſe, in the Organs of *Senſe* which are Corporeal; there being two *Eyes*, two *Ears*, and a vaſt number of organical Parts, called *Nerves*, diſperſed thro' the whole Body, which ſerve every where for the *Senſations* of *Feeling*. So that when at any time we ſay, the Mind's *Thinking* or *Intellectual Faculties*, as if they were many in number, We mean no more than the ſeveral Powers and Capacities, or Acts and Operations of the one individual Faculty, call'd the *Underſtanding*. And indeed, whoever carefully obſerves and conſiders the ſeveral Operations of *Thinking*, or the Mind's various ways of *Underſtanding* Things, and coming at the *Intellectual Knowledge* of them, will aſſuredly find that they do all, how numerous, or how different ſoever from one another, belong to and proceed from one and the ſame Faculty: Nay his very *Conſciouſneſs*, if

if duly conſulted, and attentively regarded, will, I'm confident, inform him of as much.

A curſory Peruſal of Mr. *Locke*'s *Eſſay on the Underſtanding* will eaſily ſatisfy any one, that whatever he ſays throughout his whole Work, that hath properly any Relation to his Subject, and is truly conſiſtent with the Deſign he all along declares and profeſſes, relies entirely, for all its Force and Significancy, or any Uſe it ſerves for, on this Suppoſition or *Poſtulatum, That the Perception of Ideas is an Act of the Underſtanding.* For he makes this Faculty to be nothing elſe but a *Power* of *Perceiving*; and whatever is perceived, to be an *Idea:* by which tho' he means indifferently, either an *Object* of *Senſation*, or the *Image* of it in the Mind which repreſents it and ſerves afterwards in its ſtead, yet we thought it would be beſt to conſider them ſeparately and diſtinctly, to prevent any Doubt or Diſpute that might ariſe about Either of them, in reference to the Other; and for other Reaſons obvious enough to the Reader. He ſeems indeed to intimate and intend ſomething.

more than the *Perception* of *Ideas*, in the following Account or Deſcription he gives of the *Underſtanding*. " The Power (ſays " he) of *Perception* is That which we call " the *Underſtanding*. *Perception*, which " we make the Act of the *Underſtanding*, " is of three Sorts. 1. The *Perception* " of *Ideas* in our Mind. 2. The *Per-* " *ception* of the *Signification* of *Signs*. " 3. The *Perception* of the *Connection* " or *Repugnancy*, *Agreement* or *Diſagree-* " *ment*, that is between any of our *Ideas*." But why, the *Notion* or *Conception* of a *Sign* ſhould not be called an *Idea*, as well as the *Notion* of a *Cauſe*, *Effect*, *Whole*, *Part*, and other *Relations* which he treats of under the expreſs Denomination of *Ideas*, is, I believe, what no one can comprehend. And as to *Agreement* and *Diſagreement*, they are not only *Relations*, but plainly refer to the *Notions* of *Identity* and *Diverſity*, of which he has written a whole Chapter, and there calls, and conſiders them as, *Ideas*. 'Tis evident therefore that if *Ideal Perception* be not *Intellectual*, or if the Mind, in the very Act of *Perceiving* an *Idea*, does not *underſtand*,

underſtand, or hath no *Intellectual Knowledge* of what it *perceives*, (which, I can hardly doubt, hath ſatisfactorily been made appear) this Author proceeds on a Foundation that is wholly wrong and falſe; and which conſequently makes every Thing he builds on it vain and of no Effect. And indeed, one might as well go about to explain the Nature of *Sight*, by what is not Seen, or of *Hearing*, by what is not Heard, as to uſe ſuch a way as this of explaining an Act of *Underſtanding*, *viz.* by what is not Underſtood.

Now, as may not be amiſs to animadvert; There is no attempting to explain an Act of *Underſtanding*, by the *Perception* of an *Idea*, or of the Object it repreſents, without Accommodating and Aſſimilating ſuch an Act to *Ideal* or *Senſitive Perception*. And that Mr. *Locke* hath done this to the utmoſt, and as much as poſſible, muſt be manifeſt to any one who hath ever read his *Treatiſe* on the *Underſtanding*. The neceſſary and unavoidable Conſequence whereof is, that the *Powers* of the *Underſtanding* muſt be proportionably *weaken'd* and *enervated*, and its *Operations*

ſtraitned and *confined*, and indeed ſo far *diſtorted* from their native *Truth* and *Simplicity*.

It was this Conſideration, which I had at firſt in my View, and thought to be of the greateſt Importance in the preſent Diſquiſition, that induced me to diſcourſe and treat of *Senſitive* and *Ideal Perception*, in that particular Way and Manner I have done. For ſo long as the *Operations* of the *Underſtanding* are miſtaken for, or confounded with Thoſe of any other Faculty, 'tis plainly impoſſible to have any right, or clear and diſtinct Apprehenſion and Diſcernment of them. But when, from an *Act of Underſtanding*, or any *Operation of Thinking*, every thing is ſeparated and removed that does not properly belong to it, or is not of its very Eſſence, what remains muſt evidently appear to be pure *Thought* or *Underſtanding*. And being thus diſcerned, nakedly and in itſelf, it will be more eaſy to acquire a thorough and exact Inſight into its Nature.

Concerning the late frequent and continual Uſe of the Word *Idea*, in almoſt all Diſcourſes and Converſations, and its having

ing in a manner ſupplanted *Notion*, *Conception*, *Apprehenſion*, and the like; and which, I believe, is owing chiefly, if not entirely, to what Mr. *Locke* hath written about *Ideas*; it will not be amiſs to obſerve, that ſeveral, who uſe the Word *Idea* inſtead of *Notion*, do plainly intend no more than the *Appropriation* of their *Notion* to the *Object* of it; which, by an uſual Figure of Speech, is putting the *Subject* for the *Adjunct* or *Attribute*. And others, as cannot be doubted, in ſaying, They have an *Idea* of a thing, do mean both the *Image* or *Repreſentation* of it, in their *Mind*, and their *Notion* or *Apprehenſion* of it; which is agreeable to the common Cuſtom of impoſing Names, in abundance of Inſtances: *Ex. gr.* The one Name or Word, *Foot*, ſignifies ſuch a *Length* as is viſible and conſpicious to *Sight*; and alſo a *Meaſure*, *i. e.* a thing proper to be made uſe of for aſcertaining or diſcovering the Dimenſions of other Lengths; which is the *Mind's Notion* of a *Foot*. Againſt which Manners of ſpeaking I ſee no other Objection, but that, in ſome particular Caſes, (and the preſent is one) the Application of a Word, which

is

AN

ESSAY

ON

CONSCIOUSNESS.

THere being no Account whatever of *Conſciouſneſs*, either now extant, or whereof even the Memory hath been preſerved to us, by the bare mention of its Title, in the Catalogues of Books and Treatiſes reported to be loſt; nor ſo much as any Notice taken of it, in the moſt elaborate Diſcourſes concerning the Mind, and its ſeveral Faculties and Endowments, unleſs occaſionally, or where the doing of it was in a manner unavoidable; 'Tis natural enough to conclude

clude from hence, that either there is nothing conſiderable and extraordinary in it; or elſe ſo very little, and withal ſo obvious to the meaneſt Capacity at firſt Sight, that it needs not to be particularly declared, or it does not admit of any ſort of Explication. And how it ſhould come to paſs I know not, but ſo we find it is, that every one imagines, he diſcovers as much of his *Conſciouſneſs*, immediately, or at one ſingle View, (which lies within a very narrow Compaſs) as he ſhall ever be able to do; and that 'tis in vain to ſearch and enquire, or uſe any Thought or Reflection about it.

Whether the Account I ſhall here endeavour to give of it does, in any meaſure, evince the contrary, that is, ſhew that *Conſciouſneſs* is a truly noble and fine Argument, which affords Variety of uſeful and excellent Knowledge, the Attainment whereof requires ſome Study, and a cloſe Application of Mind, muſt be left to the Determination of better Judgments than my Own. But were this already the general Opinion, (which perhaps, at preſent, is, peculiarly, Mine) or tho' its Singularity were no Prejudice againſt it, as it gives a Suſpi-

cion of its being affected; yet ſhould I not forget to put the candid Reader in Mind before-hand, that all the moſt favourable Allowances imaginable are to be made to a Work or Performance which is wholly new in its kind, or to the very firſt Eſſay on a Subject; for that, ordinarily ſpeaking, it cannot be ſuppoſed to be, in any Degree, compleat or exact; or indeed any thing more than a rude and imperfect Beginning. Provided the Author of a firſt Eſſay do but take his Aim a-right; ſo that the Matters of which it conſiſts, are ſome of the moſt principal, and none of 'em remote from the Purpoſe, or (as is very likely to happen, unleſs great Care and Caution be uſed) vain Conjectures, built only on Fancy which have nothing of truth for their Support; He hath acquitted himſelf well enough, notwithſtanding its many Failures and Omiſſions, or tho' even chargeable with ſeveral Slips and Inadvertencies. Nor ſhould ſuch a Performance be deſpiſed and undervalued for its poor and mean Appearance, or becauſe no ways comparable to any of thoſe finiſh'd Treatiſes, which have been long a cultivating and improving, and paſs'd

paſs'd thro' many Hands, each of which contributed ſomewhat towards its Perfection; it being certain that the Invention or Diſcovery of but a few things, which are ſome of the chief and leading Matters, where no Attempt was before made, and little or nothing was expected to be done, is, generally, far more difficult, and hard to come at, than all the Additions and Improvements that are afterwards made to it. And having ſaid thus much, to beſpeak the Reader's moſt favourable Reception of this Eſſay; which as it will ſtand in need of his extraordinary Indulgence, ſo it hath a very uncommon Pretence thereto; I ſhall, without detaining him any longer, immediately enter upon the Examination of our Subject: Taking my Riſe and Beginning from what is moſt plain and obvious, and occurs at firſt View to every one's Obſervation.

Conſciouſneſs (to give a Definition, or rather ſhort and ſummary Deſcription of it) is that inward Senſe and Knowledge which the Mind hath of its own Being and Exiſtence, and of whatever paſſes within itſelf, in the Uſe and Exerciſe of any of its

Faculties or Powers. To expreſs which, a little more fully and particularly:

The Mind, in its ſeveral Acts of *Thinking* and *Perceiving*, of *Imagining*, *Remembring*, *Willing*, or *Affecting*, is *Conſcious* of them as its *own* Acts, or knows that it is *it ſelf* (*i. e.* its own actual Being) which *Thinks*, *Perceives*, &c. And at the ſame time is ſenſible that they proceed from it ſelf, as the Principle of them; or knows that it is endued with ſuch and ſuch Powers, as a Power of *Imagining*, a Power of *Remembring*, &c. the Senſe or Knowledge of having a Power belonging to it ſelf, not being to be ſeparated or disjoined from That of its Act or Operation, in a rational and intelligent Being.

And, it being *conſcious* of its own Acts, the Mind perceives their ſeveral Natures; that is to ſay, it knows the preciſe and exact Manner of its own Acting and Operating, in reference to the ſeveral Kinds of Objects, which they reſpectively concern or have to do with; and at the ſame time is ſenſible of its own Endeavour and Application, and the Degree thereof, in exerting any of its Powers; and likewiſe

perceives its own Attention, or the Regard and Notice which it takes of Objects, whether it be more or leſs: Wherein no doubt the true Nature of any Act, conſidered (I mean) as its Own, or proceeding from it ſelf, doth conſiſt.

And whatever the Mind is employed about in the Exerciſe of any of its Faculties, it is *conſcious* of it, as its Object, *i. e.* Something which is perceived by it ſelf, and appears to it under ſuch a certain Form, as ſuppoſe, That of a *Colour*, a *Sound*, a *Flavour*, &c. And whether an Object be *External*, as in *Senſitive Perception*, or *Internal*, as in perceiving the *Idea* of any ſenſible Object, the Mind is *conſcious* of ſuch its Appearance: and likewiſe of Time and Place, and other Circumſtances which, as an intelligent Being, it takes notice of; for all theſe do enter into its *Perception*, and may be conſidered as Parts of it.

The Notion of Object (as I may here take occaſion to obſerve) is entirely owing to *Conſciouſneſs*; it being plainly impoſſible that I ſhould be able to conſider or regard any thing, as having ſuch an Ap-

pearance to me in my Act of perceiving it, (which is the true and proper Notion of an Object) any otherwiſe than by being *conſcious* of my own *Perception*, and of the Appearance to which it refers.

And whereupon it follows, that *Conſciouſneſs* is indeed the Baſis and Foundation of all Knowledge whatſoever; inaſmuch as whatever I can Know or Apprehend of a Thing by obſerving it, and reflecting on it with my *Underſtanding*, depends altogether on my firſt conſidering and regarding it as an Object, or ſomething which hath ſuch a certain Appearance to me in my perceiving it.

And ſeeing that the Notion or Conception of Object is undoubtedly Intellectual; for it implies and involves in it a Diſcernment of the Relation between the Thing perceived, and the Perceiver of it; We have hence (as from ſeveral other Inſtances which *Conſciouſneſs* affords us) a plain and undeniable Proof of the Mind's intellectual Nature and Eſſence. For ſince whatever it is employed about in the Uſe and Exerciſe of any of its Faculties or Powers, it always conſiders and regards

as its Object; which is a truly rational or intellectual Conſideration; the Mind therefore always and continually Acts in that way or manner which is ſuitable and proper to a rational and intelligent Being: Which is ſaying, that its *Eſſence* is *intellectual*, or that by its Nature it is ſuch a Being as we call an *Intelligence.*

In narrowly inſpecting and examining into *Conſcious Knowledge* and *Perception*, we ſhall find that *Self*, or one's own Being, is its Principal and moſt proper Object. For tho' we are all *conſcious* of every Thing we do or act, as of our own Beings or ſelves; and it is abſolutely requiſite and neceſſary that ſome Act or other ſhould precede that of *Self-Conſciouſneſs*, for we are conſcious of our ſelves only from our Acting, or becauſe we act, and *Self-Conſciouſneſs* muſt of courſe depend thereon for its Exiſtence; yet is it impoſſible to be Conſcious of any Act whatever, without being ſenſible of, or perceiving one's *Self* to be that which Does it. And it is this Senſe or Perception of *Self*, which conſtitutes the true Nature of any Act conſidered as *Conſcious*, and,

and, as I may ſay, gives a Sanction to it.

Self is likewiſe the Subject, as well as the Object of *Conſciouſneſs*, or it is That which is endued with it. For moſt aſſuredly, in being Conſcious of *Self*, it is nothing but *Self* which is Conſcious. Wherefore the Mind or Soul, tho' it be truly one's Self, yet is it ſo far only ſo, as it is Conſcious, and merely upon that account. And for which Reaſon, when thro' Phrenzy, or other Diſorder, a Man is not Conſcious of Himſelf, or his own Being and Faculties, we ſay, *he is beſide Himſelf*, or *is not Himſelf*, notwithſtanding his having a Soul, and the very ſame which he had before he became Frantick. So that *Conſciouſneſs* denominates *Self*, and *Self* may rightly be defined, *That which is Conſcious.*

Now if *Self* be both the Subject and the Object of *Conſcious Knowledge* and *Perception*; 'tis evident that *Self-Conſciouſneſs* muſt needs be the moſt intimate of all Perceptions. And indeed there is no imagining any *Knowledge*, or *Senſe* and *Perception*, ſo truly and thoroughly Intimate,

or ſo immediately preſent to the Mind, and ſo much, as I may ſay, within itſelf, or ſo near and cloſe to it, and as it were of a piece with it, as This is; wherein That which perceives, and What is perceived, is one and the ſame Thing.

Seeing that *Conſciouſneſs* denominates *Self*, and therefore even the Soul (as was ſaid) is ſo far only one's *Self*, as it is *Conſcious*, and merely upon that Account; it follows hereupon that the Body, which we aſſuredly know is not *Conſcious*, can be no part of our ſelves. The Reaſon why any one thinks or imagines otherwiſe, is becauſe the Body, or the Organs of *Senſation* ſeem to perceive, whereas they really do not. And there would be no ſuch Thought or Fancy, were there nothing of this Seeming and Appearance in the caſe. For let us ſuppoſe, for Argument's ſake, (however impoſſible) that the Soul were united to a Stone, or other unorganized Subſtance, which had no ſhew or ſeeming of *Perception*; and that at the ſame time it was *Conſcious* of its own Being, and knew it ſelf to be united to it. Can any one imagine that it would eſteem

or

or look on the Stone as an integrating Part, which, with it ſelf, made up one whole or entire Being? Would it not rather account it as a Priſon within which it was immured and ſhut up, and regard its State and Condition of being united to it as a baſe and unnatural Confinement?

Now I ask, where is the difference as to *Self*, between theſe two States, of the Soul's being united to an organized and to an unorganized Subſtance, excepting only the *Seeming* of *Perception* in the former? Which *Seeming*, ſince it hath no manner of Reality, and is nothing elſe but a falſe Shew and Appearance, can make no real Difference as to the Matter and Buſineſs of *Self*, or one's own Being.

Beſides, the *Body*, conſidered in its relation to the *Soul*, is only an Inſtrument which the *Soul* makes uſe of, in the ſeveral Occaſions it has for it: Or the Parts of the Body, called *Organs of Senſe*, do ſerve the Soul as Inſtruments, in its ſeveral Senſations of *Seeing*, *Hearing*, *Feeling*, *Taſting* and *Smelling*; the Powers themſelves of *Seeing*, *Hearing*, &c. not depending on

them in the leaſt, but belonging ſolely and entirely to the Eſſence of the *Soul*. Wherefore the *Soul* is properly one's *ſelf*; for an Inſtrument, which is a Thing in its Nature merely ſubordinate to That which uſes and employs it, and whoſe whole Eſſence conſiſts in its Accommodation, or Uſefulneſs and Subſerviency, cannot ſurely be a conſtituent part along with That which uſes and employs it. 'Tis true indeed, that Man's State and Condition in this World, or that Part and Character he is deſigned to act in it, requires a *Body*; and ſuch a State of Being is, ſeemingly or in Appearance, a ſort of *mixed Life*, in which the *Body* bears its Part. And upon which Account Man is ſaid to conſiſt of a *Soul*, and a *Body*, as two ſeveral and integrating Parts. But however this way of ſpeaking, if cloſely examined into, will not abide the Teſt, or appear in ſtrictneſs juſtifiable: Becauſe the *Body* does not live, or ſubſiſt in its vegetative State, without the *Soul*; and it is the *Soul* alone which hath the Powers of Life in it, properly ſo called, namely, the Senſitive and Rational Faculties. Wherefore the *Soul* is truly and properly the *Life of Man*;

and

and the *Body* is only an *Appendage* to it: Or, becauſe united with the Soul, it is like a natural Inſtrument, which ſerves in thoſe particular Uſes and Occaſions which the *Soul* hath for it, in that ſort, or kind and manner of Life, which it is deſtined to lead in this World. And even ſuppoſing that the *Soul* could have no Exerciſe of any of its Powers, without a *Body*: In this Caſe indeed, the *Body* would be requiſite to the *Soul*'s exerting and putting forth into Act its Vital Powers, viz. *Reaſon* and *Senſe*: But ſtill, it would be no more than an *Appendage* to the *Soul*, or ſomething joined to it, for the ſake of uſing, and enjoying the Exerciſe of its own Powers, without being at all beholden to it, or depending on it in the leaſt, for their exiſting, or being what they are.

This ſhort Excurſion of Argument will not perhaps be thought wholly unpardonable, ſince it ſerves to ſtrengthen the Other taken from *Conſciouſneſs*, and joined along with it does the more fully evince, (which is what every one ought to be apprized of, and ſhould carefully obſerve and fix in his Mind, *viz.*) of what little Value and Conſideration

deration the *Body* is to be had, in Compariſon of the *Soul*; This being properly one's *Self*; That only an *Appendage* to it. And that how dear and amiable ſoever the *Body* may appear to us, and notwithſtanding the ſeveral real Uſes and Conveniencies it hath, (needleſs any of them to be mentioned, as being ſufficiently known) in reſpect to this preſent Life, or Man's Abode in this ſenſible corporeal World, yet is it not the Life of Man; and therefore, ſtrictly ſpeaking, not a Part of his Being. For it is Life which conſtitutes Being, in That which Lives; ſo that a Dog, without Life, is not truly and properly a Dog, nor a Worm, without Life, a Worm: And it is the *Soul* only which lives, as having alone the Powers of Life in it, *viz.* the Senſitive and Rational Faculties.

Unity of Nature and Eſſence is, in an eſpecial and ſingular Manner, attributable to *Self*, or that which is *Conſcious*. For tho', in thinking of any thing, we always conſider it, as one, and the Unity of every thing (as Philoſophers teach) is convertible with its Eſſence; yet *Conſciouſneſs* hath This in it peculiar and extraordinary, *viz.* that it is the

the very Cauſe and Reaſon of the Unity of that Eſſence or Being which is endued with it. And ſo it continually ſuggeſts this Notion and Apprehenſion to us, about any Conſcious Being whatever, *viz.* that, as ſuch, it is neceſſarily one, and cannot ſo much as in Thought be imagined to be more than one thing only.

Conſequently *Self*, or that which is *Conſcious*, is eſſentially and in its Nature indiviſible, or without Parts. For whatever is ſo much one, that there is no imagining it to be two or more than one, is queſtionleſs in its Nature indiviſible, or doth not conſiſt of Parts. And that the Imagination will not allow *Self* to have Parts, is manifeſt from hence; that tho' the Mind, in ſome of its Thoughts and Contemplations, which are very large and comprehenſive, may be fancied to dilate and expand it ſelf, in Proportion to the Objects of them; yet, in being Conſcious of it ſelf, (as it continually is) it doth, as it were, contract it ſelf to a Point; inſomuch that 'tis impoſſible to frame any Idea of a Conſcious Being, as a thing which is diviſible, or conſiſteth of Parts.

Tho'

that it hath a Power of *Choice* and *Preference*. And of which two Remarks, we ſhall make a proper Uſe in another place.

I ſhall conclude this Article concerning *Self*, with one Obſervation more, *viz.* that there is ſomething extraordinary in the Notion of it, as not being reducible to any kind of Being or Exiſtence yet taken Notice of. For under Subſtance, and Accident, Philoſophers comprehend all ſorts of Exiſtencies whatever. Now 'tis certain that we do not perceive the Eſſence of any Subſtance corporeal or incorporeal. And yet, had we Faculties proper and acute enough for ſuch Perception, we cannot imagine that they could preſent to our View the *Eſſence* either of *Body* or *Spirit*, in ſo lively, and clear, and ſatisfactory a manner, and with that perfect Intimacy to ourſelves, as the Perception of *Self*, does *Self*, wherein the ſame Thing is the *Perceiver*, and the *Object* or Thing *perceived*. And as to *Accident*, 'tis manifeſt that *Self* does not come under this Head or Denomination of Exiſtence: for *Self perceives*; and *Perception*, as being an Act, is therefore an *Accident* or Affection belonging to *Self*. So that *Self*

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is a ſort of Being or Exiſtence which hath not yet been taken Notice of; becauſe it is *perceived*, which no *Subſtance* is; and yet can be no *Accident* or Affection of Being, becauſe it *perceives*, namely, *itſelf*, and its own Powers and Operations; which it's impoſſible to aſcribe, or imagine as attributable to any *Accident* or Affection whatſoever.

The Conſideration I ſhall next proceed upon, is, that *Conſciouſneſs* is *ſenſible* of *itſelf*, or (which means the ſame thing) the *Mind*, in being *conſcious*, *perceives* and knows that it is *Conſcious*. And which I ſhall endeavour to make appear as many ways as it ſeems capable of being evinced; becauſe of its extraordinary Uſe and Importance, with regard to ſome Things, about which we are very deſirous and ſollicitous to be freed from any the leaſt Doubt, that will receive a new Light from this Property of *Conſciouſneſs*, and which cannot, as I imagine, be any otherwiſe ſo clearly explained or ſatisfactorily accounted for.

Firſt then, the very Nature and Reaſon of the Thing ſpeaks and declares, that the *Mind*, in being *Conſcious*, muſt *perceive* its own

own *Conſciouſneſs*. For the *Conſciouſneſs* of *Being* and *Exiſtence*, and of the *Acts* and *Powers* of *Perceiving*, *Thinking*, *Imagining*, *Remembring*, *Willing*, and *Affecting*, or a *Senſe* and *Perception* of theſe, or any of them, as our *Own*, is moſt certainly *Knowledge*, or elſe nothing is. Now that *Knowledge* of any kind ſhould be actually in the *Mind*, and preſent to it, (as no doubt can be made of this *Conſcious Knowledge* of *Exiſting*, *Thinking*, &c.) and yet not be *perceived* by it, is abſurd and contradictious. To which may be added, that *Conſcious Knowledge* being more intimate to the *Mind* than any other, it muſt needs be the rather *perceived* upon that account. And moreover, *Conſciouſneſs* is a Sort of *Knowledge* which the Mind doth naturally think to be moſt certain and free from all manner of Doubt. Now that the *Mind* ſhould have ſuch an Opinion of its own *Knowledge*, and not *perceive* it, or be ſenſible of it, is altogether impoſſible; becauſe indeed the very Ground and Reaſon thereof muſt be the actual *Perception* it has of ſuch its own *Knowledge*, and can be nothing elſe.

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The next Argument is, Fact or Experience. As to which, I will appeal to any one, whether he does not naturally or of himſelf, without conſidering or reflecting, or ſtanding in need to be taught or inſtructed by another, know himſelf to be *Conſcious*; and that, after ſo aſſured and undoubting a Manner, that he cannot be better, or perhaps ſo well, ſatisfied of any thing beſides in the World. Now *Knowledge*, which is *Natural*, or comes of it ſelf without being ſought for, and that ariſes in the Mind, as it were, ſpontaneouſly, without requiring any Conſideration or Reflection, can be nothing elſe but *Perception*; and in this caſe muſt be the *Perception* of *itſelf*, or it muſt be a *Self-perceiving Knowledge*. And hereupon I ſhall make no ſcruple to aſſert, and it is what, I'm confident, every one will agree to as ſoon as propoſed; That ſhould, ſuppoſe, the moſt inconſiderate and unreflecting Perſon alive be ſeriouſly given to underſtand, by one who paſſes with him as an Oracle for deep myſterious Wiſdom, and all Sorts of rare and exquiſite Knowledge, That he is a *Conſcious Being*, or is ſenſible of *Himſelf*, and of his own

own *Perceptions, Thoughts,* and *Intentions*; This ſo very unreflecting Perſon would readily, and without a Moment's Pauſe, return for Anſwer, That he moſt aſſuredly knows all this of himſelf, and as well, or better than any one in the World, (excepting no Body) is able to inform him of it. Nay, I believe he could ſcarce forbear laughing at him to his Face, for pretending thus gravely to inſtruct him, in the *Conſcious* Senſe and Knowledge he has of his own Being and Exiſtence, and of his own *Perceptions, Thoughts,* and *Intentions.* And which therefore, as was ſaid, ſuch a one could not have, without *perceiving* his own *Conſciouſneſs.* Beſides; there are ſome Acts, wherein the Mind doth expreſly regard its *Conſciouſneſs* of them, or of *itſelf* as being the Author of them; as generally in its *Volitions,* and all Acts of a Moral Nature and Tendency; more eſpecially ſuch as a Man's *Conſcience* immediately prompts him to the doing of, or warns him to forbear and abſtain from; for our *Conſcience,* or that Principle within us, which judges and directs our Actions which are of a Moral Nature and Tendency, always therein appeals to

our *Conſciouſneſs* of the Knowledge, or Apprehenſion and Diſcernment we have of ſuch Actions. And conſequently the Mind's *Conſciouſneſs* of all its other Acts, of what kind ſoever, muſt be *perceived* by it; for the Neceſſity or requiſite Occaſion there is of having a particular Regard to the *Conſciouſneſs* of theſe Acts, is not certainly the Cauſe of the Mind's *perceiving* its *Conſciouſneſs* of them; becauſe it muſt needs have *perceived* it, before it could have any Regard to it. To which may be added, that the *Conſciouſneſs* of ſome of our paſt Actions does frequently recur to, and ſometimes unavoidably break in upon our *Minds*; which plainly implies, and indeed neceſſarily ſuppoſes, a poſitive and expreſs Reference and Regard to the *Perception* we had of our *Conſciouſneſs* of them, at the time of our doing them. Further yet, and which ſets this Argument of *Fact*, in the fulleſt and cleareſt Light imaginable; 'Tis certain that, in my *perceiving* any Act to be my Own (as I continually do) it always appears to me to be my own Act; that is, in other Words, my *Conſciouſneſs* of it appears to me; for to perceive any Act to be my own, and

and to be *Conſcious* of it, is one and the ſame Thing: and that any Act ſhould appear to me to be my *own*, without my *perceiving* at the ſame time ſuch its Appearance, is a manifeſt Contradiction.

The third and laſt Argument I ſhall offer, is the Impoſſibility of coming to the Knowledge of *Conſciouſneſs*, any other way than by its *perceiving* or being ſenſible of *itſelf*. For 'tis certain that the *Imagination* can have nothing to do with *Conſcious Senſe* or *Perception*, or any other interiour Act; its Province being only to exhibit and repreſent to the *Mind* the *Pictures* or *Images* of external *Senſible* Objects, at ſuch Times when *Senſe* does not *perceive* them, and the *Mind* however *contemplates* them in their *Ideas*. And as to *Memory*, it does no more but revive or call up to the Mind ſomething that was before *perceived*: ſo that if I remember that I was at any time *Conſcious*, (than which nothing is more frequent and common for every Man to do) I muſt before-hand have *perceived* my *Conſciouſneſs*; otherwiſe I could never have *remembred* or called it to Mind. And it were prepoſterous to think by Reaſoning, or Reflecting on

what paſſes in the Mind, to find it out; becauſe *Reaſon* itſelf, and every Rational Act, is only diſcernable by it. Inſomuch that, in going about to diſcover our *Conſciouſneſs* by our *Reaſon*, we ſhould, as it were, endeavour to ſee Light (which alone can make any thing viſible to us) by the Object it ſhines on. Or rather, ſince *Reaſon* is a *conſcious* Faculty, it is its own Light, or a Light to itſelf; and therefore, in being *Conſcious*, muſt *perceive* its own *Conſciouſneſs*; juſt as if a luminous Body could behold or look on itſelf, it muſt, in ſeeing itſelf perceive its own Light. So that for Reaſon to be at the Pains of conſidering and reflecting, in order to diſcover its own *Conſciouſneſs*, would be putting itſelf to a moſt vain and unneceſſary and indeed ſenſeleſs Trouble. Nor can I believe, that any Man was ever yet ſo extravagantly fooliſh and abſurd, as once in his whole Life-time to conſider or uſe any Reflection to find out, whether or no he were *Conſcious*. The Reaſon whereof can be only This; That as we are continually *Conſcious*, ſo our *Conſciouſneſs* is perpetually preſent to our Minds: Tho' not always alike, or in the ſame Degree,

gree, nor equally in every Operation of the Mind, becauſe we are not always in the ſame degree *Conſcious*; as will be ſhewn hereafter.

And thus we have every way evinced and made appear, that the *Mind*, in being *Conſcious*, *perceives* or is ſenſible that it is ſo; *viz.* from the Nature and Reaſon of the thing; from Fact and Experience; and from the Impoſſibility of coming to the Knowledge of it, by any other Way or Means.

But farther than This, or beyond a *Senſe* of *Conſciouſneſs*, there is no proceeding. For admitting a *Perception* of a *Senſe* of *Conſciouſneſs*, that is, in other Words, a *Perception* of a *Perception*, of a *Perception* (for all *Conſciouſneſs* is unqueſtionably *Perception*, and nothing elſe) the Progreſs might as well be *in infinitum*; which therefore cannot be admitted, as being abſurd and impoſſible.

Since every Act of *Reaſon* and *Underſtanding* does moſt undoubtedly imply a *Conſcious Senſe* or *Perception* of *itſelf*; for to *Think* at all, and not to be *Conſcious* of *Thinking*, is a plain and manifeſt Contra-

diction: And ſeeing alſo that *Conſciouſneſs* is eſſentially, or in its Nature, *intellectual*; for a *Senſe* or Knowledge of *Being* and *Exiſtence*, and of the Mind's Acts conſidered as its *Own*, and in reference to the Objects of them, and of its *own* Powers of Acting, (which are neceſſarily included and involved in every *conſcious Perception*) are unqueſtionably *Rational* or *Intellectual Knowledge*; it follows hereupon that *Conſciouſneſs* and the *Underſtanding* do mutually imply and infer one another: So that wherever there is *Conſciouſneſs* there muſt be an *Underſtanding*; and ſo *vice verſâ*.

And the *Underſtanding* muſt be a *conſcious Faculty*. For tho' *Conſciouſneſs* and the *Underſtanding* do mutually imply one another, yet we cannot aſcribe *Underſtanding* to *Conſciouſneſs* in the ſame manner that we aſcribe *Conſciouſneſs* to the *Underſtanding*. Tho' we ſay, for Inſtance, that the *Underſtanding* is *Conſcious*, or acts conſciouſly; yet we do not, nor can properly ſay, that *Conſciouſneſs underſtands*; or at all Thinks; at leaſt, not after that preciſe and appropriate manner of Attribution,

tion, wherein *Thought*, or the Act of Thinking, is aſcribed to the *Underſtanding*. Wherefore the *Underſtanding* does not belong to *Conſciouſneſs*; but *Conſciouſneſs* belongs to the *Underſtanding*, and, as appears, is an eſſential Property, or natural Conſequent of it.

Now if the *Underſtanding* be a *conſcious Faculty*, it muſt needs therefore, as ſuch, *perceive* every thing that is *conſciouſly perceived*: I mean, according to the ſame reaſon and cuſtom of Speech, that any other *Faculty* is ſaid to *perceive*, or act. The *Senſe* of *Seeing*, for Inſtance, we ſay, *perceives* Colours, and that of *Hearing*, Sounds, and the *Memory* is ſaid to *Recollect*, and the *Will* to *Chuſe*, tho', ſtrictly ſpeaking, it is the *Mind* or *Soul* only which *perceives* and acts. And which I take to be the true Ground and Reaſon of that trite Saying or Maxim of Philoſophers, *Intellectus omnia percipit*. The *Underſtanding* therefore, conſidered as a *conſcious Faculty*, is like an univerſal Senſe, which *perceives* and takes cogniſance of the *Perceptions* of all the Mind's Faculties and Powers, and of their other

Acts and Operations; and conſequently of their Objects, there being no poſſibility of ſeparating the Object, or Thing *perceived*, from the Act of *Perceiving*. And which is likewiſe confirmed to us by the Teſtimony of Experience: For in employing our *Underſtanding* about any *ſenſible* Object, for Inſtance, it is not, as when *one* Senſe is employed about the Object of *another* Senſe, which hath no manner of Knowledge of what the other *perceives*. *V. gr.* The *Touch*, when it perceives the Figure or Shape of a Thing, which is, at the ſame time, *ſeen*, hath no Perception or Cogniſance of its Appearance to the *Sight*. Whereas the *Underſtanding* takes cogniſance of the Appearance of an Object, either to the *Sight* or *Touch*, or to any other *Perceptive Faculty*, indifferently. And indeed otherwiſe, 'tis plainly impoſſible it ſhould have any Exerciſe or Employment about the Objects of *Senſe*, conſidered as ſenſible, which we find it has; or about any Thing beſides its own Operations: For to diſcern or judge of the Nature and Properties of a Thing (which to do belongs only to the *Under-*

Underſtanding) without actually perceiving it, or unleſs it be the immediate Object of that which judges and diſcerns, is not practicable or imaginable.

Since *Conſciouſneſs* and the *Underſtanding* do mutually infer one another; and foraſmuch as a mutual Inference or Convertibility of any two Things does moſt certainly imply and import, that whereſoever one of them does not actually exiſt, neither can the other poſſibly be There; it follows from hence that *Brutes*, if they are not *Conſcious*, cannot be *Rational* or *Intelligent*. And which, tho' a Digreſſion from our Subject, it will not be amiſs to ſpeak to a little; becauſe it is an eſtabliſhed Opinion among ſome Men, that their *Inſtinct* (as all others, beſides themſelves, do for Diſtinction's ſake call it) is true genuine *Reaſon* and *Underſtanding*, and does not differ from the *Mind's Reaſon* in its *Kind* and *Nature*, but only in *Degree*; juſt as the Wit or Apprehenſion of one Man may be inferior to That of another, and not by far ſo ready and acute as in the Generality of Mankind. And they (as I may take notice) are moſt ſtiff

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and peremptory in this Opinion, who hold that to *underſtand* any thing, is only to have an *Idea* of it, and nothing elſe or more. And infer hereupon that *Brutes* muſt be *Rational* and *Intelligent*, becauſe of their having *Ideas*. Which that they have, (unleſs we ſhould ſuppoſe them to be mere Engines or Machines) cannot indeed be denied or diſputed; it being certain that ſeveral Species or Kinds of them are endued with *Memory*: and we find that they frequently act from their *Imaginations*; as namely, when the Objects they *imagine*, *i. e.* perceive the *Ideas* of in their *Souls*, are not preſent to their *Senſes*. But if they are not *Conſcious*, and conſequently not *Rational*, this plainly demonſtrates, that to have an *Idea* cannot be the ſame thing with an Act of *Underſtanding*. So that by declaring how that *Brutes* are not *Conſcious*, we ſhall (as the vulgar Saying is) *Kill two Birds with one Stone*; both make appear that *Brutes* are *Irrational*, and that the having an *Idea* is not an Act of *Underſtanding*.

Now, how earneſtly ſoever ſome may ſtickle and contend for *Brutes* having ſome Portion

Portion or Degree of *Reaſon* and *Underſtanding*, yet I believe it never yet entred into the Thoughts or Imagination of any Man, that they are *Conſcious* or Senſible within themſelves of the *Rationality* of their own Actions, when to *Appearance* they are never ſo *Rational*. Nor will any one pretend, from the beſt Hiſtories and Accounts of Animals, or his own niceſt Obſervation of their Manners and Behaviour, that he is able to collect, or can find any the leaſt Ground for fancying or believing, that a *Dog*, *Ape*, *Elephant*, or other the moſt ſagacious *Brute*, *perceives* itſelf to *exiſt*, and have a *Being*, or that any of them is *conſcious* to itſelf of any of its *Powers* and *Capacities*, whether *Senſitive*, or *Inſtinctive*. Far leſs, can it ſo much as be ſuſpected, that any of them hath a *Perception* of its own *Conſciouſneſs*; and is not only *conſcious*, for inſtance, that it *feels* and *thinks*, and hath a *Power* of *feeling* and *thinking*, but is *ſenſible* of ſuch its own *Conſciouſneſs* and *Knowledge*. And yet, without this *Self-conſcious* or *Self-perceiving Knowledge*, (as I may call it) there can be no true or real *Conſciouſneſs*, as is ſufficiently

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ly plain and evident from what hath been ſaid. The *Senſe* or *Perception*, therefore, which *Brutes* have of their own Actions, or of what they do, and are excited and prompted to, by their *natural Inſtinct*, (which I conceive to be nothing elſe but the Power and Force of their *Imaginations*, working upon, and actuating their Souls, according to the particular Frames and Conſtitutions of their ſeveral Beings, as the Divine Power and Wiſdom, to which nothing is impoſſible or difficult, hath thought fit to order and direct, in the firſt creating and forming them) Their *Perception*, I ſay, of their own Actions, is of a quite different Kind and Nature from That which is to be found in *Man*; and hath not the leaſt Shadow of a Pretence to *conſcious Senſe* and *Knowledge*. And conſequently, ſo far are they from perceiving ſuch of their Actions to be *Rational*, that have the greateſt Appearance of *Reaſon* in them, that they do not ſo much as know the Nature or Tendency of any Action whatever, tho' the moſt common and familiar to them; as being utterly incapable of regarding and conſidering it, as their *Own*, or as proceeding

ing from *Themſelves*; becauſe *Unconſcious*. So that, when they *Walk*, *Fly*, *Swim*, or *Creep*, they are not even *ſenſible* within themſelves, of what they do or perform in any of thoſe Actions, or Motions and Employments. For to know the Nature and Tendency of any Action, which is properly one's own, without being *conſcious* of it, as one's own Action, or Act and Performance, is utterly inconſiſtent and irreconcilable with any Thought or Notion about ſuch an Act. A great deal more might eaſily be ſaid on this Head: But I believe thus much is ſufficient. To go on therefore with the Account of our Subject.

Tho' *Conſcious Perception* be indeed of the *intellectual Kind*, yet is there never any Attention or Application of *Mind* required therein; as frequently behoves and becomes neceſſary in other *intellectual Acts*, for the better aſcertaining their Truth, and diſcerning their Correſpondency, or Suitableneſs and Accommodation to the Objects about which the *Mind* is employed in *Thinking*: And even in *Senſitive Perception*, in order to render it more ſure and exact. Neither is *Conſciouſneſs* capable of being exerted, as the

the Mind's other Faculties and Powers are: For we ſhould not be the more *Conſcious*, by endeavouring to be ſo; and to try or offer at it, would be fond and ridiculous. So that the *Mind*, in being *Conſcious*, is entirely *paſſive*, and cannot be ſaid, by any Action or Endeavour of its own, to contribute any way towards it.

Nor does *Conſciouſneſs* therefore *judge* or *reflect*, but no more than barely *perceives*, or repreſents and expoſes to the *Mind's* View its Thoughts and other Acts; as *Senſe perceives* and *repreſents* the exterior Forms and Appearances of *corporeal Objects*. Conſidered in which Reſpect, its Knowledge and Information may be compared to the Teſtimony of a Witneſs, who only declares and reports Matters of Fact, without intermeddling or concerning himſelf in the leaſt, as a Judge of what he declares and teſtifies. But then, as ought to be remembred, the *Mind*, in all its Acts of *Reaſon* and *Underſtanding*, is *Conſcious* of their *Rationality*, or knows and is ſenſible that they proceed from its *rational* and *intellectual* Nature. And conſequently its *Conſcious Senſe* and Knowledge muſt be to the full as

rational

rational as They are: For moſt undoubtedly, to be *Conſcious* of what is *rational*, is to be *rationally Conſcious*; and therefore the *Rationality* of *Conſciouſneſs* muſt always be proportionable and adequate to the Degree of any *Rational* Act whatever.

The *Mind*'s *Conſciouſneſs* of all its Acts, of what kind ſoever, does immediately accompany, and, as it were, cloſely adhere to them; there not being any the leaſt Interval or Space of Time interceding between its *acting*, and the *Conſcious Senſe* or *Perception* which it has of it. And let them paſs never ſo quick away, our *Conſciouſneſs* inſtantly departs and vaniſhes along with them: For if this were not ſo; conſidering the great Variety of our Thoughts, their quick ſtarting up, their ſudden Flight and Evaſion, and their continued uninterrupted Succeſſion, there could be no knowing or diſcerning their natural Connection and Dependence, and of courſe there would be nothing but wild Confuſion and Diſorder in the Mind.

All the *Perceptions* of *Conſciouſneſs* are likewiſe *ſimultaneous*, or happen together at one and the ſame time. The Mind, for inſtance,

inſtance, in *Thinking*, is *ſenſible* of the *Act* or *Operation* of its *Thought*, or what it thinks; and of the Object thought on, or Subject Matter of it; and knows alſo that it is *Itſelf* which *thinks*, and hath a Power of thinking; and moreover hath a *Perception* of its *Conſciouſneſs*, or inward Senſe and Knowledge of all Theſe, at one and the very ſame inſtant of time. For ſuppoſing the Caſe to be otherwiſe, 'twould be impoſſible for it to have any clear and diſtinct Knowledge of any thing, or indeed any right, or even tolerable, I may truly ſay, any Exerciſe at all, of its *Reaſon* and *Underſtanding*.

Conſcious Knowledge or *Perception* is alſo moſt perfectly and thoroughly adequate and exact; nothing being ever omitted, or added, or in the leaſt altered and varied, in the *Mind*'s *Thoughts* and other *Acts*, or in whatever they properly relate to, or have to do with. For 'tis the ſame thing in effect, as if every Act perceived and repreſented by it, did ſignify, or ſuggeſt and notify to the *Mind* the *Knowledge of itſelf*, with whatever is included in it, or does any way belong to, or concern it, as the Mind's own Act. And indeed whoever duly

ly weighs and conſiders the Nature of a *ſelf-conſcious* or *ſelf-knowing Perception*, with regard to the Mind's Acts, in their being done by, or proceeding from *Itſelf*, as a *Conſcious Principle*, will readily allow this to be ſo, and cannot poſſibly think otherwiſe of the Matter.

And moreover, *Conſcious Knowledge* is in the higheſt degree Certain; as neither requiring nor admitting any Proof, but being in *itſelf*, and merely for its own ſake and account, Credible, and to be relied on with the utmoſt Aſſurance: Becauſe the *Mind*, as hath been ſhewn, in being *Conſcious*, *perceives* its own *Conſciouſneſs* or *conſcious Knowledge*; which is *knowing* that it *knows*. Or more fully and explicitly; *Conſciouſneſs* is *the Mind's immediate Perception of itſelf*, conſidered as now in the *Act* of *perceiving itſelf*: Which is ſaying, that *Self-perception* is *its own proper Object*; or that the *Mind*, in *perceiving* itſelf, is *ſenſible* of itſelf, as that which *perceives* and is *Conſcious* of itſelf. 'Tis utterly impoſſible therefore that *Self-conſciouſneſs* ſhould be deceived or impoſed on: it being, as if pure very Knowledge did perceive itſelf, or

its own Truth, which diſdains the leaſt Appearance of Falſhood and Deceit, and puts to flight any Shadow or Suſpicion of its being any other than what it ſeems and appears to be. So that to doubt of the Truth of *Self-conſciouſneſs*, were to doubt of that which we muſt aſſuredly know, cannot be known at all, without being moſt certainly known. And conſequently, the Appearance to the *Mind* of any *Senſation*, *Thought*, or *Imagination*, of which it is *Conſcious* and *Senſible*, as its *own* Act, or ſomething done by *itſelf*, in being *Conſcious* of *itſelf*, is its Reality, and does no ways differ from it. And to ſuppoſe Theſe, or any other Acts of the *Mind*, not to be really what they ſeem and appear to be, in its being *Conſcious* of them, is a mere Contradiction, and deſtroys the very Notion of a *Being*, which is *ſenſible* of its *own* Acts, as proceeding from *itſelf*, in being *Self-conſcious*, and *perceives* its own *Senſe* and *Knowledge* of Them, and Itſelf. And for which Reaſon, *Conſciouſneſs* may very juſtly be ſaid to exceed all other *Knowledge* whatever, in *Certainty* and *Evidence*; even That of *Self-evident Truths*, (as they are called) or the

firſt

firſt Principles of Reaſon: Becauſe Theſe concern and have to do with the general Natures of Things, or the Conditions and Habitudes of their Beings; in which therefore there is need of Judgment and Reflection. But no *Knowledge*, which is an Act of *Judgment*, or is acquired by *Reflection*, admits of that Degree of *Self-evidence*, as a *Knowledge* which is merely *perceptive*, and derives its Evidence from the *Perception* of *itſelf*, or is *Self-evident*, becauſe *Self-perceptive*. 'Tis manifeſt therefore, that no one can be ſo well aſſured of the Truth or Rightneſs of his Judgment, tho' ever ſo certain and free from doubt, as that he actually judges, the Aſſurance of this being his *Conſciouſneſs*, which is *Knowledge* in the higheſt degree *Self-evident*. And far leſs (as I may add) can he be ſo certain, that what he *obſerves*, or *perceives* by any of his *Senſes*, is Real, and ſuch as it appears to be, as that *Objects* have ſuch an *Appearance* to his *Senſes*, and that he actually *perceives* and takes Notice of them.

Conſidering that our *Conſciouſneſs* (which is the higheſt Evidence and Aſſurance of the Reality of our Being) is perpetually

preſent to our Minds; 'Tis, as I may take occaſion to obſerve, exceeding ſtrange and hardly credible, that any one, eſpecially ſo renowned a Philoſopher as *Deſcartes*, ſhould call in queſtion the Certainty of his own Being and Exiſtence, and not be ſatisfied thereof, until he had firſt found out a Medium, [*I think*] to prove it by. But which is indeed no Medium at all, becauſe the Thing does not admit of any Proof, as being, of all other Knowledge, the moſt immediate, becauſe in the higheſt Degree ſelf-evident. For he could not know or be aſſured that he Thought, without being *Concious* of *Himſelf*, as that Being or Thing which had Thought; and that it was Himſelf, *i. e.* his own actual Being (the very Thing he would prove) which, in the Act of Thinking, gave Exiſtence to his own Thought. 'Tis evident therefore that he certainly knew that he Exiſted, before ever he ſought for a Medium to prove it by; for that the Medium does not really differ from the Concluſion: becauſe to know or perceive that it is I my ſelf who Think, (which it's impoſſible, in Thinking, to be ignorant of) is certainly to know that I Exiſt, or am actually

actually that Being or Thing which Thinks, there being no ſeparating, ſo much as in Thought, the Knowledge and Perception of Being and Exiſtence from that of *Self:* So that if the Perception of *Self* be certain, That of *Exiſtence* muſt be ſo too. And tho' the Medium he makes uſe of ſeems to be rather the Act of Thinking, conſidered in general, than his *own* Thinking, or the Conſideration that 'tis *Himſelf* who Thinks, (and which might as well have been ſaid of *Feeling*, or any other Senſation, as of *Thinking)* yet 'tis certain that the true and moſt Natural State of the Argument is this, " *'Tis I*, i. e. my own very Being, or Self, " who Think; and therefore I Exiſt ". But which, as was ſaid, is no Argument at all; becauſe the *Perception* or *Conſciouſneſs* of *Self*, is the *Perception* of *Exiſtence.* But this Philoſopher being reſolved before-hand to *doubt* of every thing, he called in Queſtion even the certain Knowledge he had of his own Exiſtence, merely for the ſake of *Doubting:* Or he would not allow it to be Knowledge, becauſe it interfered with his own darling Maxim or Rule of Philoſophizing, That, in order to know any thing

with Certainty, every thing ought firſt to be *doubted* of, and reckoned as *uncertain*. Whereas indeed if nothing were ſo certain and evident of itſelf, as to need no Manner of Proof from any thing elſe, all our labour of ſearching after Truth would be in vain; for every thing muſt everlaſtingly remain Uncertain, and there could never be any End of Doubting. And if *Self-conſciouſneſs* be not a certain Knowledge of one's own Exiſtence, we had e'en as good let alone Doubting; for it will never make us grow one Jot the wiſer or more knowing, becauſe we cannot otherwiſe be ſure that we Doubt at all, even when we are moſt Doubtful, but by being *Conſcious* that it is *We ourſelves* who *Doubt*.

Conſciouſneſs, as it gives us infallible Aſſurance of the Reality of our own Being and Exiſtence, ſo it is a moſt certain Rule and Criterion for judging of that State of the Soul, when we are not truly our ſelves; or it will ſerve to diſcern and diſtinguiſh, moſt clearly and exactly, between our Dreams, and our Waking Thoughts and Senſations. To make appear therefore the Difference between Dreaming and Waking, there

there needs only to ſhew that a Man, when he dreams, is not *Conſcious*; and conſequently, in dreaming, cannot know that he dreams, as, when awake, he knows himſelf to be awake.

Now in dreaming, we ſeem to perceive Things by our Senſes, of which there are no Real Senſations. And it is no extraordinary Thing for a Man to dream himſelf to be Dead, or ſome other Being or Thing than he is. And ſeeing that whatever a Man ſeemeth then to perceive ſenſibly, as if awake, is nothing elſe but Fancy and Imagination; That Perception therefore which, in Dreaming, he hath of his own Being, is only of an imaginary Being; and conſequently a deluſive fanciful and ſeeming Perception, and not true *Conſciouſneſs*, or a Knowledge and Perception attended with a Senſe of itſelf. Conſequently alſo, tho' one dream the Truth, and ſeem to have that Being which is really one's own, (ſo far as a Dream is capable of repreſenting it) or ſhould dream that he is in that Place where he actually is, with other Circumſtances which are at that time real; yet is this nothing elſe but a ſeeming or

imaginary Perception; there being no Difference at all, in the preſent Caſe, between a falſe and a true Imagination, when, tho' it be only Imagination, it is not however perceived to be ſuch: as it muſt needs be, were there a *Conſcious* Senſe or Perception of it. Otherwiſe *Conſciouſneſs* might err and be deceived; which hath been ſhewn to be, in the Nature of the Thing, utterly impoſſible. 'Tis manifeſt therefore that, in *Dreaming*, a Man it not *Conſcious*.

And from which it follows, that a Man can never know or be certain that he dreams; becauſe, ſuppoſing he certainly knew it, he muſt (agreeably to what hath been ſaid) perceive his own Knowledge and *Conſciouſneſs* of it: that is, according to the Nature of a Dream, he muſt fancy himſelf to be *Conſcious*, or imagine his own *Conſciouſneſs*; which is as inconſiſtent and incompatible with its Nature, as any one Thing can poſſibly be with Another.

Whereas, on the contrary, when awake, a Man cannot but aſſuredly know he is ſo; becauſe ſenſible of his own Knowledge or Conſciouſneſs of the Reality of his own Being, and of his Waking Senſe and Thoughts.

And

And for the ſame Reaſon, upon recollecting or thinking of his paſt Dream, he muſt needs know it to have been a Dream, and that he was not then truly *Himſelf*, but had only ſuch a Being as his Imagination was capable of forming and repreſenting to him. And about which any one may be perfectly well ſatisfied, who newly coming out of a Dream, will but carefully examine his own Appearance at ſuch time, and take due Notice and Cogniſance of the Nature and Manner of that *Perception* which, in *Dreaming*, he had of his own Being, and then compare it with that which he has of it when *Awake*. He will not, I ſay, find any the leaſt Reſemblance or Similitude of a *Conſcious*, or *Self-knowing Perception*, in any Dream he has concerning his own Being, or of any thing he ſeems to do or act therein. For indeed *Conſciouſneſs* is a thing utterly incapable of being mimick'd or counterfeited, or having any manner of Repreſentation made of it; its Nature being ſuch, that either it muſt be perfectly true and real, or it muſt be wholly wanting and abſent: excepting, when a Man is between ſleeping and waking, and has not yet got rid

rid of the Impreſſion of his Dream, but is ſomewhat under the Power and Influence of it; and in another Caſe we ſhall preſently mention, which reſembles it.

But ſuppoſing that a Man, on the very Inſtant of his coming out of a Dream, and before he had time to rowſe and recollect himſelf, ſhould be deprived of his *Conſciouſneſs*, then, conſequently from what hath been ſaid, he would not be able to know that he had Dreamed. And the Senſe of his Dream, which he had, in dreaming it, and the Perception of his preſent Self, and of his now waking Senſations, would be, to him, no ways different, but as the very ſame Thing. And which I mention, becauſe, hereby, the Perception which *Brutes* have of their Senſations and Actions may, I think, be ſet in a clear and ſatisfactory Light. What hath been ſaid of a Man coming out of a *Dream*, and ſuppoſed to be deprived of his *Conſciouſneſs*, being, no doubt, applicable to Them; which, becauſe deſtitute of *Conſciouſneſs*, cannot diſtinguiſh or diſcern any difference between the *Imaginations* of their *Dreams*, (for that ſeveral of them Dream, is unqueſtionable)

and

and their *Waking Senſations:* So that, when Awake, they perceive their Senſations and Actions, juſt even as Men, and they themſelves do their Dreams. For, becauſe a Man in Dreaming, for want of being *Conſcious*, knoweth not that he has a Dream; *Brutes*, which are *Unconſcious*, do not perceive, when Awake, that they are Awake; nor, coming out of a Dream, are ſenſible that they have Dreamed. Waking therefore, they have the ſame Perception of their Senſations and Actions, as Dreaming they have of their Dreams. And which can admit of no manner of Diſpute; becauſe, to all Appearance, the *Imaginations* of a *Dream* differ nothing from the *Perceptions* of *Senſe*, but are ſeemingly the very ſame with them: And it is *Conſciouſneſs* alone (which *Brutes* want) that can diſtinguiſh the one from the other, or ſhew that a Dream is not a real Senſation.

The caſe of *Madneſs* admits of the like Explication, or may be judged of and determined after the ſame Manner. For raging, or ſtark mad Folks, not being at all *Conſcious*, muſt needs therefore have much like

like ſuch a *Perception* of their own Beings or *Selves* as one that Dreams has; or who, newly coming out of a Dream, would have, ſuppoſing he were deprived of his *Conſciouſneſs*. And a melancholy or half-mad Perſon is ſomewhat in the ſame Condition with Him who, not being thoroughly Awake, is doubtful whether his Dream be not true or ſomething real. The difference between *Dreaming* and *Madneſs*, (which is nothing material in the preſent Caſe) ſeems to be only this; That the bodily Organs (where-ever it is that the Soul hath its chief Reſidence) of Mad-men are ſhattered, or put out of their natural Frame and Order: in Dreamers, there is a Stupor which poſſeſſeth them. But the Effects are the ſame: As appears from Mad-folks fancying themſelves to be other Beings than they are; from their not knowing themſelves to be Mad; and when recovered of their Madneſs, their conſidering it, as a Man awake does his paſt Dreams. I ſhall only add on this Head, that a violent Rage of Paſſion, and the ungovernable and unaccountable Freaks and Tranſports

Tranſports of a Man overcome with Drink, are to be deemed a temporary or ſhort-liv'd Madneſs.

'Tis notorious that the difficulty (tho' only imaginary) of diſtinguiſhing between Dreaming and being Awake, hath by ſeveral been look'd upon as unſurmountable; and hath ſo perplexed and embarraſſed ſome very curious and over-nice Perſons, and even ſome notable Philoſophers of the laſt Age, that they have in earneſt doubted, and ſeriouſly debated with themſelves, whether or no, when *Awake*, they were not *Aſleep*, and did nothing elſe but *Dream*. But, as I am apt to believe, a true Notion of *Conſciouſneſs*, or of a Knowledge which *perceives* and is *ſenſible* of *itſelf*, (and which any one may have, by conſulting his own Reaſon, and certain Experience in the Caſe) will entirely ſatisfy Him that is moſt ſceptical and ſcrupulous, and render the Matter in Debate as clear as the Day. And it will at the ſame time let us ſee, how that ſome Men are ſuch errant Humoriſts in Thinking, as to doubt of thoſe Things which they could not help being moſt

thoroughly aſſured and ſatisfied in, were it not that they take a ſtrange ſort of whimſical Pleaſure to ſeem ignorant, even to Themſelves, of what they really know; and did wilfully and obſtinately ſhut their Eyes againſt the natural and clear and ſelf-evident Light and Conviction of their own *Minds* and *Conſciouſneſs*. And as to Thoſe who have endeavoured to remove this ſuppoſed and imaginary Difficulty, they have attempted it, not by accounting for the difference between *Dreaming* and being *Awake*, from the Nature and Reaſon of the Thing, or by That which truly makes the difference; but by ſome choſen and extraordinary Inſtances, which they imagined would clear up the Matter; but wherein, I think, they have not at all ſucceeded. Mr. *Locke* would make appear the difference between *Waking* and *Dreaming*, only by this Inſtance, *viz.* That there is a manifeſt Difference between Dreaming of being in the Fire, and being actually in it. But (were this at all to the purpoſe) do we never Dream of any thing but Fire that burns and torments us? And are not our ſeeming or imaginary

imaginary Senſations, eſpecially of *Seeing*, very frequently as clear and lively in Dreams as our real ones, when we are ever ſo thoroughly Awake? Wherefore, unleſs it be when a Man happens to have the Senſation of the Pain of Burning, he may, for ought he knows, or can tell, be in a Dream. And in order to be aſſur'd that he is at any time Awake, he ſhould always have a Fire ready to thruſt his Hand into it. Mr. *Hobbes* (with whom it is uſual to aſſert, juſt according as his preſent Purpoſe and Occaſion at any time requires, what is contrary to, or beſide the common Opinion, dogmatically, or upon no other Ground than his own ſingle Authority) makes a *Dream* to be *more clear* than our *Waking Thonghts*. "And "hence, ſays he, it cometh to paſs, that "it is a hard matter, and by Many thought "impoſſible, to diſtinguiſh exactly between "*Senſe* and *Dreaming*. For my own "Part, (adds he) when I conſider, that "in Dreams I do not often nor con-"ſtantly think of the ſame Perſons, "Places, Objects and Actions that I "do Waking; nor remember ſo long a "train

" train of coherent Thoughts, Dreaming,
" as at other times: And becauſe Wak-
" ing, I often obſerve the Abſurdity of
" Dreams, but never Dream of the Ab-
" ſurdities of my Waking Thoughts; I
" am well ſatisfied that, being Awake, I
" know I dream not; tho' when I dream
" I think my ſelf Awake." A fine Solution of this ſo extraordinary and puzzling Difficulty! As if any Man in the World did conſtantly think of the ſame Perſons, Places, Objects and Actions, at one time as at another; or remember ſo long a Train of coherent Thoughts; when ſometimes he cannot, tho' he would never ſo fain, do it. Wherefore, when he does not ſo Think, and ſo Remember, (I ask by the way, did ever any one, in Dreaming, Recollect, or purpoſely make uſe of his Memory?) he ought, if this Argument concludes, or has any Force in it, to think or ſuppoſe himſelf to dream, when he is Awake. Or as if abundance of People (perhaps the far greateſt Part of Mankind) were not ſo inconſiderate, as never once ſcarce in their whole Lives, to obſerve or reflect on the Abſurdities

of

of their Thoughts; and who nevertheleſs are as well aſſured of their being Awake, as any Philoſopher, who does not think fit to believe it, until he has firſt found out an Argument or Criterion to ſatisfy himſelf, that he is awake. Or, as if it were poſſible to Dream at all of our Waking Thoughts, as Things different from our Dreams which reſemble them. What Occaſion then for any mention of their Abſurdities? And as to his affirming "That, "when he Dreams, he thinks himſelf to "be Awake;" Another, who had a Mind to anſwer him in his own way, might with equal Truth have told him, that when Awake, he thinks himſelf to be a Dreaming. Beſides, there is the ſame Objection to be made againſt theſe Criterions, as againſt *Deſcartes*'s Argument for proving his own Exiſtence. For by his ſaying, "When I "*conſider* that, in Dreams, I do not often "nor conſtantly think of the ſame Perſons, "Places, Objects and Actions, that I do "Waking, *&c.*" 'tis very plain, that he already knew himſelf to be Awake. Otherwiſe, what would *Conſidering* ſignify, unleſs certain that 'twas *Himſelf* who *conſi-*

ſidered? Which he could not be, unleſs aſſur'd at the ſame time of his being *Awake:* Or ſuppoſing he could, he ought to have told us, how he came to know and be aſſured that he *Conſidered:* for unleſs ſure of this, the Things he conſidered might, for ought he knew, be all a Dream and Fancy. And indeed his very *Conſidering* is not much better, and can hardly be admitted as an Argument in the caſe; becauſe for a Man, who is thoroughly *Awake*, to *Conſider*, in order to diſcover whether or no he is *Awake*, without ever minding or regarding his own certain Knowledge, or inward Senſe and Experience of the Thing, looks very like the Conſideration of a Mad-man, or one who has loſt his Wits. I ſhould not have troubled the Reader with theſe Animadverſions, but in order to obſerve, that ſince this Philoſopher, who had a very pregnant Wit for the Invention of Arguments, could find no better to ſerve his turn; 'tis very likely that there is no other poſſible way, than that which we have mentioned and declared, to come to the Knowledge of the Thing; Or ſuppoſing there were,

were, it could not be ſo ſatisfactory as *Conſciouſneſs*, which *perceives itſelf*, or is *ſenſible* of its *own Knowledge*. But is it not ſomewhat ſtrange, that two ſuch great Judges, and nice Arbiters of the preciſe Bounds and utmoſt Limits of *Human Knowledge and Underſtanding*, ſhould never imagine or ſuſpect, that there muſt be ſome one and conſtant, ſome very ſolid and ſubſtantial Reaſon, why all Mankind (without a ſingle Exception) are ſo thoroughly well ſatisfied and aſſured of their being Awake? And that, without the leaſt labour of Conſidering and Reflecting, or ever uſing any Thought at all about the Matter. And is it not a little ſurpriſing that They, who have ſearch'd and ranſack'd every nook and corner of the Mind, for *Ideas*, after having made this noble and uſeful Diſcovery, that all the Mind's Knowledge, of what kind ſoever, is reſolvable into them, ſhould never once happen to *Stumble* upon *Conſciouſneſs*? But enough, or perhaps too much of this: and to proceed.

Since the Mind's *Conſciouſneſs* of it ſelf, and its own Powers, depends on its Act-

ing; and to be *Self-conſcious* is nothing elſe but being *ſenſible* of one's *ſelf*, as that which acts, and hath a Power of Acting; and this implies ſome notice or regard of the Nature, or Quality and Tendency of the Act, of what kind ſoever it be; for how is it poſſible to be ſenſible of one's ſelf, as the Actor or Doer of a Thing, without having ſome regard or conſideration of the Act or Action it ſelf, and of what is acted or done? Wherefore when (as ſometimes it happens) the Mind or Soul is ſo indolent and remiſs, that it ſcarce knows what its Thoughts are, or that it at all Thinks, but careleſsly and ſupinely ſuffers 'em to go at random and adrift, like a Ship in the wide Sea without a Pilot, and ſeems, tho' Awake, to dream its own Thoughts; at ſuch times its *Conſciouſneſs* of itſelf, and its Powers of Acting, is, in Proportion thereto, weak and lifeleſs, and ſo obſcure as to be hardly perceptible. And (which may appear very ſtrange) when, on the other hand, its Thoughts and Meditations are ſo earneſt and intenſe, that it is wholly Loſt, as we ſay, in Contemplation; it hath but

a very ſlight Senſe and Perception of its Being, and Faculties of Thinking. The reaſon of which, I ſuppoſe, is, that the unuſual greatneſs, or extraordinary importance of the Object, diminiſhes and abateth of that Regard which, otherwiſe, it would have to its Thoughts, as its own; as if they were given and imparted to it by the Object of its Meditation; or as if it did not act, but were acted upon. Or perhaps there is ſomething in the Nature of the thing it ſelf, that may occaſion that a very great intenſeneſs of Thought ſhould produce the ſame effect, that a Faintneſs or Languor does; Contraries, as we find, ſometimes begetting like Changes and Effects. They alſo who act with Enthuſiaſm, as Poets, (and who, 'tis thought, do nothing right or to the purpoſe, without it) are not then ſo *Conſcious*, as at other times. For their Imagination, when heated, looks like Inſpiration; And their Fictions and Inventions, not proceeding from Premeditation, but coming ſuddenly upon them, without any deliberate Fore-thought or Conſideration, appear like ſo many Apparitions

or Viſions, and not as their own proper and natural Productions. And which brings to my Mind a Story, related, I think, by *Ariſtotle*, of a certain Poet of his time, who was frequently Mad, or out of his right natural Wits. Now when ſober, and quite free from his Lunacy, his Performances were heavy and dull, and he ſtrove in vain to do any thing to the Purpoſe: But during his lucid Intervals of Madneſs, (as I may call them) he had the true vein of Poetry on him. There is yet another caſe, wherein *Conſciouſneſs* is in a manner *loſt*, and quite diſappears; or (if I may venture on ſo bold an Expreſſion) is wholly ſpent and exhauſted. Which is, when the Soul is ſo raviſh'd, and wrapt up in the Object of its Love and Admiration, that it ſeems to be entranced, and to have no Senſe left of it ſelf, or its natural Powers, from the Exceſs and Predominancy of thoſe Paſſions. As is finely expreſs'd in that ſo much celebrated Ode of *Sappho*, put into Latin by *Catullus*; where it is ſaid,

ſimul

——————————*ſimul te,*
Lesbia, aſpexi, nihil eſt ſupèr mî
Quod loquar amens,
Lingua ſed torpet, &c.

I ſhall only add to what hath been ſaid, that there are degrees of *Conſciouſneſs*, without any of theſe extraordinary Cauſes and Accidents. For a very young Child cannot be thought ſo *Conſcious* as a Man, nor perhaps, as one of three or four years old. And it's likely that an Embrio in the Womb, or a new-born Infant, is not *Conſcious* at all. And from which we may infer that actual *Conſciouſneſs* depends, for its Exiſtence, on the exerciſe of *Reaſon*; becauſe, tho' there be a Capacity of *Reaſon*, in an Embrio, or new-born Infant, yet before *Reaſon* appears and acts, there is no *Conſciouſneſs*. And foraſmuch as one who is very groſs-witted, and next to being ſtupid or quite void of *Underſtanding*, is *Conſcious* but in a very low degree, 'tis probable enough to thinking, that every Man is more or leſs *Conſcious*, in proportion to his Share of *Reaſon* and *Underſtanding*. Seeing alſo that

our *Senſations* are ſeldom regarded, unleſs when pleaſing, or diſagreeable; for as was obſerved, (in diſcourſing of *Senſe)* we are for the moſt part wholly intent on the Objects perceived, without ever minding our Acts of Perceiving them: but in our Acts of Thinking, there is a Neceſſity of taking Notice of them, becauſe otherwiſe, no Regard could be had to their Truth or Juſtneſs, which is always requiſite in the Caſe: We are not therefore, generally ſpeaking, ſo *Conſcious* of our *Senſations* or *Senſitive Perceptions*, as of our Acts of *Thinking* and *Underſtanding*. But we are moſt *Conſcious* of our *Volitions*, or Acts of Willing, for a Reaſon which will quickly be mentioned.

As the *Mind* or *Soul* is continually *Conſcious* of the particular Natures of its own Acts, and of its ſeveral Powers of acting; it comes thereby to know when it ceaſes from acting, or does not act; as *v. gr.* that it does not, now, *See* or *Hear*. But which otherwiſe it could not know: for ſuppoſing I had never been *Conſcious* of the Act and Power of *Seeing*, 'twere utterly impoſſible, when it is dark, or my Eyes are cloſed, that

I ſhould be able to know that I do not now *See:* and for the ſame Reaſon, upon growing blind or dim-ſighted, that I ſhould know, I have loſt my Sight, or that my Faculty of Seeing is impaired; and that I cannot now ſee at all, or ſo well as once I did. Should it be ſaid, that this Diſcovery is owing to *Memory:* I anſwer, that tho' I could not know it, without the Help and Uſe of my Memory, yet ſince I call it to mind as a Conſcious Being, *Memory* is indebted to *Conſciouſneſs*, for its being at all practicable, or any ways ſerviceable in the Caſe. For where This is wanting, *Memory* is blind and impotent, and uncapable of knowing any Thing: as is apparent from Inſtances of Brute Creatures. For certainly a Dog, when he has loſt his Smell, which is his acuteſt Senſe, and That which he continually uſes in all his Actions and Employments, does not know that he has loſt it: Nor is ſenſible, upon its being impaired and growing dull, that it is not ſo good or quick as it uſed to be. And yet a Dog remembers, and hath Inſtincts of a very high and extraordinary Nature. A plain Indication that *Brutes* are not *Conſcious:* for to

loſe

loſe a Power, without being ſenſible of the Loſs; or to experience Perception or any other Act, and not afterwards to know when there is none, the proper Object and Occaſion of its Exerciſe being preſent, and where Memory is not wanting, manifeſtly implies, that there never was any Conſciouſneſs or inward Senſe and Knowledge, either of the Power or the Act. The Soul likewiſe perceives the Decay and Dulneſs, or the Improvement and Promptitude of its intellectual Powers and Faculties, on comparing the preſent Degree of their Capacities with what it formerly experienced and obſerved of them. And which I particularly mention, becauſe of making the folfowing Remark and Reflection, *viz.* that when incapable of uſing them, as in lethargick Diſtempers, 'tis altogether impoſſible that a Man ſhould be ſenſible of their Loſs or Suſpenſion, as he is, in the Caſe of any abſent Senſation, or the Loſs of any of his Senſes. A manifeſt Token, that *Conſciouſneſs* belongs only to the *Mind*, as it hath *Reaſon* and *Underſtanding*. And tho', as ſome may perhaps be ready to object, the Soul would not be able to perceive a total

Loſs

Loſs or Suſpenſion of its *Memory*, any more than *Underſtanding*; yet ſince there may be *Memory* without *Conſciouſneſs*, as in *Brutes*, and conſequently without *Underſtanding*, this Objection therefore does not at all reach or ſignify to the Purpoſe.

The *Conſciouſneſs* of a *Power* or *Faculty* is likewiſe, as may be obſerved, abſolutely requiſite and neceſſary to the uſing, or employing and directing it, ſuitably to the Occaſion which preſents itſelf, or for any rational End or Purpoſe. For how could it be poſſible for any one to employ his Senſe of *Seeing*, for inſtance, on any Object, or direct his *Sight* to it, in order to underſtand it, or for any other rational Purpoſe, without being *Conſcious* of his having ſuch a Senſe or Faculty? And for which Reaſon it is that, in *Dreaming* (*viz.* becauſe there is then no *Conſciouſneſs*) the Soul can have no Exerciſe at all of its Power of employing and directing any of its Faculties whatever. And conſequently, as may be noted, *Reaſon* or the *Underſtanding*, at ſuch times, does not properly act, or there is no true and right Uſe and Exerciſe of it: for to underſtand any thing, without having a Power

Power to uſe, or employ and direct one's Faculty of Underſtanding, ſuitably to the Occaſion that offers, or for ſome rational end or other, tho' it be only (what is moſt natural to it, *viz.)* Speculation, or merely for the ſake of Knowledge, is a manifeſt Contradiction. But that there is no true or real Exerciſe of the Underſtanding in Dreams, may likewiſe appear from this Conſideration; that in Dreaming, we never wonder at the moſt ſtrange and ſurprizing Objects and Accidents, and which, awake, would amaze and aſtoniſh us. For *Wonder* (which is a rational Paſſion) implies a *Senſe* or *Conſciouſneſs* of one's Ignorance of the thing wondred at: and it's impoſſible there ſhould be a Capacity of Knowing and Underſtanding, where there is none of having a Senſe of one's Ignorance or not Knowing. Mr. *Hobbes* endeavours to account for this, by ſaying, That the Clearneſs of Perception, in a Dream, taketh away Diſtruſt. But what ſignifies Diſtruſt in the Caſe? Do we not wonder, when awake, at things, which we have not the leaſt Doubt or Diſtruſt of their being true and real? The Reaſon why we do not diſtruſt in our Dreams,

Dreams, is becauſe there is then no Capacity of Doubting, as whether or no the Object before us be any thing real, or ſuch as it appears to be: And this, becauſe there is at ſuch time no true or real Exerciſe of the Underſtanding: for an Incapacity of Doubting, in a Being that is not infallible and all-knowing, does moſt certainly imply, that there is an Impotence or utter Inability of really underſtanding any Thing whatever.

To proceed now in the next place, to the Conſideration of what was formerly obſerved concerning the *Will*, or a Power of acting with Choice and Preference, namely, this Peculiarity belonging to it; That it is a neceſſary and indiſpenſable Conſideration of its being exerted or put forth into act, that the Mind ſhould, therein, particularly, or formally and expreſly regard it ſelf, *i. e.* a *Conſcious Being*, which *wills*, and hath a Power of willing, as it actually does.

Now this particular Regard and Conſideration of *Self*, does, I think, plainly intimate and declare, that the *Mind*, in its acts of *Willing* is *free*, or does determine itſelf;

itſelf; and that it is not determined, or forced and neceſſitated, to *Will* as it does, by the Object or Motive to it; but that what it *Wills* or *Chuſes*, it had a Power of *not Willing*, or *refuſing*, and what it *Wills* or *refuſes*, it had a Power of *Willing*, or chuſing and preferring. For otherwiſe, what Neceſſity, or indeed any the leaſt Occaſion could there be, that the Mind, in the Exerciſe of its *Will* alone, and not as in acting by any other Faculty belonging to it, ſhould always regard *itſelf*, as having a Power of acting as it does; unleſs it had in itſelf a Power of beginning the Motion, or that, in Willing, it acted from *Itſelf* alone, and ſo had a *Self-motive*, or *Self-determinative Power?* It is ſo far from being requiſite and neceſſary, or upon any Account uſeful or expedient, that the *Mind*, in its acts of *Perceiving*, *Thinking*, *Remembring*, &c. ſhould particularly regard or conſider *itſelf*, that the doing This would be a Hindrance and Impediment to ſuch Acts. As if, in *Thinking*, for Inſtance, I ſhould uſe this Reflection, *'Tis I myſelf who now Think, and have a Power of Thinking as I actually do*, This would hinder and divert the free and

and natural Courſe of my Thoughts. Neither could it be done, without a particular Application of the Mind to this Purpoſe, or without intending before-hand to do it. Whereas there is no occaſion for any ſuch Application, or previous Deſign and Intention in the Acts of *Willing*; it being, as was ſaid, a neceſſary and indiſpenſible Condition of Willing any thing, or of any voluntary Act whatever, that the Mind, at the very Time that it Wills, ſhould expreſly regard and conſider itſelf, as That which Wills, and hath a Power of Willing as it does. 'Tis manifeſt therefore that *Self*, or that which is *Conſcious*, does, in exerting this Power, lead the Way; and ſo doth begin the Motion, or is the Principle or firſt Cauſe of every voluntary Act. And this particular or expreſs Regard of itſelf, is the true Cauſe and Reaſon (which we promiſed to declare) why the *Mind*, in its Acts of *Willing*, is always thoroughly, and, as I may ſay, intenſely *Conſcious*: but which is otherwiſe, as hath been noted, in the Exerciſe of all its other Faculties or Powers.

Another Proof of the Mind's Freedom in *Willing*, and indeed ſtrictly demonſtrative,

tive, is this further Conſideration, (formerly alſo mentioned, as what ſhould afterwards be remembred and made uſe of) *viz.* That the *Mind*, before ever it exerts its *Will* or Power of chuſing, is *conſcious*, and knows within itſelf, that it hath a Power of Choice and Preference. And which is alſo a neceſſary Condition of its Willing at all: Inſomuch that, the very *firſt* time I had Occaſion to exert my *Will*, or make uſe of my *Elective* Power, I could not poſſibly exerciſe it, or do any voluntary Act, without knowing and being conſcious to my ſelf [before-hand] that I have ſuch a Faculty or Power in my ſelf. A thing that ſeems, at firſt ſight, very ſtrange and wonderful; to know I have a Power of acting, before ever I have acted, or had any Tryal or Experience of it: But a little Reflection will quickly ſatisfy any one that, in the Nature of the thing, it muſt be ſo, and cannot poſſibly be otherwiſe; and which is peculiar to this Faculty: For we know nothing of our *Powers* of *Perceiving*, *Underſtanding*, *Remembring*, &c. but by experimenting their Acts; it being neceſſary firſt to *Perceive* and *Think*, before we can know that we

we have a Power of perceiving or thinking. Now this Fore-knowledge, or, as I may call it, *Fore-conſciouſneſs* of a Power of *Willing* or *Chuſing*, (and which, as I ſhall repeat, is abſolutely neceſſary to the exerting of the *Will*, or putting it forth into Act) does moſt clearly and demonſtratively prove, that the *Mind*, in all its Volitions, *begins* the *Motion*, or acteth from it *Itſelf*, as the firſt Cauſe, and true and ſole Principle of them: Becauſe (as is manifeſt at firſt ſight, and indeed Self-evident) That which is *conſcious* of any Motive Power *Itſelf* has, before ever it hath had any Tryal or Experience of it, muſt needs be the ſole Cauſe of its *own* exerting it, or putting it forth into Act: As if, for inſtance, before ever I moved my Hand, I knew I had, in my ſelf, a Power of moving it; 'tis, by the Suppoſition, utterly impoſſible that any thing but [my ſelf] ſhould be the Cauſe of [my] moving it. And as to the Inducement, or Motive (as it is called) of my *willing* or *chuſing* as I do, This falls under the ſame Conſideration, and is to be concluded and determined by it: In as much as the Act of allowing or admitting of the Motive, (cal-

led the Will's Conſent or Approbation) is as much a Voluntary, or, as I may ſtyle it, a *ſelf-moving Act*, as any Choice or Election which follows afterwards upon it. For 'tis moſt certain that, before ever I allowed or admitted of any Motive whatever, I knew and was *conſcious* to my ſelf, that I had a Power of allowing and admitting it. And as may well enough be ſuppoſed to be the Caſe, there may be two Motives, which ſway equally or pretty near alike with me; and that I am, as yet, ignorant which of them I ſhall prefer. I may be doubtful and wavering, for inſtance, whether, in my future Conduct, I ſhall prefer *Profit* to *Pleaſure*, or *vice verſa*. Wherefore, for the Reaſon before-mentioned, the Motive could not force or neceſſitate me to admit it; it being a Contradiction to think, that any Motive can force its Admiſſion, or neceſſitate my Preference of it to any other, when I am conſcious to my ſelf of a Power I have of admitting or allowing of a Motive, in general, or indeterminately, before ever I know what the particular Motive will be, which I ſhall prefer to all others.

There

There is yet another Proof or Evidence of the Mind's Freedom in *Willing*, taken from *Conſciouſneſs*, or a Man's conſcious Knowledge and Experience, which ſets the Matter in the cleareſt and plaineſt Light imaginable; it being (as I may ſo call it) a ſenſible Demonſtration of the Thing. For Example's ſake; ſhould any one now tell me, that I cannot help thinking on the preſent Subject, becauſe there was a certain Reaſon and Motive which neceſſitated my Choice and Preference of it to any other: I may with great Truth aſſure him, that I am *conſcious* of, or feel within my ſelf, a Power of thinking of any other Subject, as well as the preſent; of what is moſt trivial, as well as the moſt important: or the moſt diſagreeable, no leſs than the moſt pleaſing to me: And ſo likewiſe, that I can command my *Choice*, either for the doing, or forbearing any Action; the continuing of it, or breaking it off: And all this, merely to ſatisfy my ſelf, (ſhould I be ſo capricious as to doubt of it) that I have a *Power* of *willing* or *chuſing*, indifferently, or without having any regard to any Motive that might ſway or induce me to *will* and *chuſe*,

as I do: Namely, by making a Tryal or Experiment of ſuch my own *Power*, and purely for the ſake of making it. And ſhould the Motive be the moſt alluring and affecting imaginable, and ſuch as I never, before, had any Thought of reſiſting, or oppoſing my *Will* to it; I can ſay to my ſelf, "This Motive is indeed very ſtrong and "forcible: However, I will ſhew my ſelf "that I can reſiſt it, and that it ſhall not "get the better of my *Will:* For I find in "my ſelf a *Power* of doing it: And I will "exert this *Power*, tho' upon no other "View or Conſideration, but merely for "the ſake of aſſerting to my ſelf, in the "ſtrongeſt manner, ſuch my own *Power*, "or my Freedom and Liberty of *willing* "indifferently; by making this extraordi-"nary Tryal of it; and tho', otherwiſe, I "ſhould certainly have yielded to the Mo-"tive.

Now tho' it be here ſuppoſed that I do This, only for the ſake of Tryal and Experiment of my *Power* of *willing* indifferently; yet is it certain that I have always ſuch a *Power*, without ever thinking at all of my making a Tryal of it, after this manner.

ner. For it were prepoſterous to imagine, that the having a *Power* to make this Tryal, or the actual making it, is the Cauſe of my *Freedom* in *willing*, or of my having a *Power* of *chuſing*, indifferently, or without being forced and neceſſitated by the Motive: Becauſe the making this Tryal is indeed no more than an inſtance of my *Freedom* in *willing*: And therefore is mentioned, only by way of *Expoſition*, or for ſetting the matter in ſo clear and evident a Light, as to ſtop the Mouths of Wranglers, and leave no room for any Cavil or Diſpute, becauſe it is making a Man a Judge in his own Caſe, and is indeed appealing to what he continually experiences, or is *conſcious* of, within *himſelf*. However ſhould any one be ſo croſs-grain'd and pertinacious as to ſay, that it is neceſſary to uſe and have recourſe to this Tryal and Experiment, in order to *will freely*, or *indifferently*: My Anſwer is, that ſince it is always in his Power to uſe it, it ſerves the purpoſe effectually; and he may be *free* in his *Choice* whenever he pleaſes; and if he does not pleaſe or think fit to make uſe of this *Power*, 'tis his own Fault if his *Choice* be not *free*. Which

tho' extremely abſurd, for it is making a Man to be the Cauſe of the *Freedom* or Liberty of his own *Will*; or it is ſuppoſing him to be *free* in *willing* or chuſing, only when he has a Mind to it, or takes a Fancy to be ſo; yet it is arguing *ad Hominem.*

Conſciouſneſs likewiſe affords us inconteſtable Proofs of the *Soul's Immateriality*, or moſt clearly evinces its Subſtance to be *ſpiritual* and *incorporeal.*

For in the firſt place, That thing which is *conſcious*, viz. *Self*, or one's own Being, is, in the ſtricteſt Senſe, *one* or *individual*, and in its Nature as indiviſible, as a Point or Unit is: Inſomuch that, in its ſeveral Acts of *thinking*, and being *conſcious*, it cannot be ſuppoſed or imagined, to *think*, in one part; to be *conſcious of thinking*, in another; and to *perceive* that *Conſciouſneſs*, in a Third. For ſuch a Suppoſal would quite deſtroy the very Notion of *Self*, which implies (or nothing does) *abſolute Indiviſibleneſs*, or the moſt ſtrict and *indiſſoluble Unity.* Now *Thinking*, the *Conſciouſneſs* of it, and the *Perception* of This, tho' each of them be a ſeveral Act, and quite diſtinct from the other, are *ſimultaneous*, or happen

pen all together, at one and the ſame time. Which therefore cannot exiſt together, in a Subſtance which is extended, or conſiſteth of Parts, any otherwiſe than by having a ſeveral Part employed in each of thoſe ſeveral and ſimultaneous Acts: Which is plainly contrary to, and quite overthrows the Notion of *Self*, which, by its Nature, is purely and ſimply *One*, and by the Suppoſition, the very ſame numerical and individual thing, with reſpect to thoſe three Acts.

Again, tho' they are ſimultaneous, in reſpect of Time, yet, according to Nature, there is an orderly Succeſſion in them, or one follows and comes after another. For firſt, there is the Act of *thinking*; next, the *Conſciouſneſs* of it; and then ſucceeds the *Perception* of This: Which laſt does therefore (as muſt be noted) include, or contain and comprehend the Firſt, as well as That which next ſucceeds it, and is intermediate; for there cannot be a *Perception* of *Conſciouſneſs*, without perceiving what the Mind is *conſcious* of. Now this, if applied to *Body* or *Matter*, i. e. a ſolid Subſtance, will appear to be inconſiſtent and impoſſible.

For (as is univerſally agreed, and was never yet diſputed by any one) the *Act* of a ſolid Subſtance can be nothing elſe but *Motion.* Now that one Motion ſhould contain in it two other Motions diſtinct from itſelf, (for *Thinking*, the *Conſciouſneſs* of it, and the *Perception* of *Conſciouſneſs*, are ſo many ſeveral and diſtinct Acts) is altogether unimaginable, and what no one can frame to himſelf any Idea of. *Naturaliſts* do indeed ſpeak of a *compounded Motion:* But every ſuch Motion, of what kind ſoever, is queſtionleſs, in reſpect of the Body that moves, as much one ſingle Motion, as that which is moſt uncompounded, or ſimple and uniform: And ſo cannot be ſaid to contain two other Motions, ſeveral and diſtinct from itſelf. Beſides, the Mind's Act of perceiving its Conſciouſneſs of thinking, is not a Compoſition of Conſciouſneſs, and of thinking; but is, in itſelf, a diſtinct Act from them, nor hath any thing like a Compoſition or Mixture in it.

Moreover, if *Body* be *conſcious*, it muſt perceive itſelf; for the *Mind*, in being *conſcious*, perceives Itſelf, or its own Being, as a Thing which exiſts, and acts, and hath

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a Power of acting as it does. Wherefore Body, if conſcious, muſt be its own Object, or an Object to itſelf: that is to ſay, it muſt receive or take the Impreſſion of itſelf, on itſelf; there being no other poſſible or imaginable way of a Body, *i. e.* a ſolid Subſtance, its Perceiving, than by taking the Impreſſion of what it perceives, on itſelf. A thing, at firſt ſight, abſurd and ſhocking to Reaſon. And yet it will appear to be ſtill more abſurd than it immediately ſeems, by conſidering, that the *Self-conſciouſneſs* of *Body* muſt be taking the Impreſſion of itſelf, into itſelf: For *Self-conſciouſneſs* is a Perception, in its Nature, thoroughly and perfectly intimate; and therefore (as is ſaid) the Self-conſciouſneſs of Body muſt be taking the Impreſſion of itſelf, into itſelf. That is, in other Words, it muſt pervade or penetrate itſelf with itſelf; which is more impoſſible and contradictious, than that one Body ſhould penetrate another Body.

Fourthly and laſtly; The *Mind*, in being *Conſcious*, *perceives* itſelf to be *Conſcious*; which is perceiving itſelf to be That which perceives itſelf. Which Perception,

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if aſcribed or applied to Body, would be the Impreſſion of an Impreſſion of itſelf, on itſelf. For firſt, there is *Conſciouſneſs* of *Self*: and ſeeing it is *Self* which is *Conſcious*; then, ſuppoſing *Self* to be *Body* or Matter, it muſt, as was before ſaid, receive or take the Impreſſion of *itſelf* on *itſelf*. But *Conſciouſneſs*, and the *Perception* thereof, are two ſeveral and diſtinct acts, tho' concerning one and the ſame thing, *viz. Self*. Wherefore ſince the latter (as was noted) comprehends the former, and which is therefore a *Perception* of *Self-Perception*; ſuppoſing Body to have ſuch a Perception, there muſt be an Impreſſion of an Impreſſion of itſelf on itſelf. And ſince this is not feaſible or practicable, unleſs Body could penetrate itſelf with itſelf, there muſt be a *Self-penetration* of *Self-penetration*. Which perhaps is ſo high a ſtretch of Nonſenſe and Abſurdity, that it would puzzle any one extremely, to invent or deviſe another equal or comparable to it.

A further Conſideration concerning *Conſciouſneſs* is, that its *Perceptions* are naturally *indelible*: that is to ſay, the Memory

mory of the Mind's conſcious Acts will never be defaced or obliterated, but will continue and abide in it, ſo long as itſelf, a Conſcious Being, endures and laſts: unleſs by Means of ſomething extraneous, which hath a Power (as we find the Body has) of obſtructing and hindring the Faculty of Remembring, in its due and natural courſe or way of Acting. For, as every one's Experience may ſatisfy him, whatever we Remember *Rationally*, or as an act of our Reaſon, we remember *Conſciouſly*, or as ſomething which we have been *Conſcious* of. Now foraſmuch as the *Mind* or *Soul* in being *Conſcious*, hath nothing to do with the *Body*: for even the *Conſciouſneſs* of *Senſitive Perception*, which carries in it a Relation or Reſpect to corporeal Organs, is, if poſſible, more ſpiritual, that is, more incapable of being a Property or Act of Matter, than our moſt refin'd and abſtracted Notions are: *Memory* therefore, or that Faculty which imprints on the Mind its *Senſitive Perceptions*, and cauſes them there to endure and abide, and likewiſe its Acts of *Thinking* and *Underſtanding*, and brings them again to its view,

view, (tho' we ſhould ſuppoſe an Organ capable of doing this) yet, if an Organ, or any Thing corporeal, it cannot imprint on the Mind the *Conſciouſneſs* of them, or cauſe it to remember and recollect its conſcious Acts, conſidered as Conſcious. And that we frequently remember the *Conſciouſneſs* of our own Acts, and indeed cannot ſometimes help or avoid doing it, tho' we had never ſo great a Mind, is moſt certain and inconteſtable. It muſt needs therefore be, that the *Mind* or *Soul* hath a Faculty of a purely *ſpiritual Nature*, for retaining its *Conſcious Acts*, and whereby it is enabled to recollect, and bring them again (as I may ſo expreſs it) to its *Conſcious View*. And if of ſuch a Nature, it muſt be eſſential to it, or belong to its very Being and Eſſence, and conſequently cannot be dropp'd or relinquiſh'd upon Death, or when the Soul is ſeparated and diſunited from the Body. Wherefore, as was ſaid, the *Soul* will always retain the *Memory* of its *Conſcious Acts*, and they will never be defaced or obliterated: a Conſideration (as I may note by the way) of vaſt Moment and Concern, and that naturally

turally ſuggeſts to us the moſt ſerious Thoughts, and awful Reflections, with regard to that Being which beſtowed *Conſciouſneſs* on us, and likewiſe our *Conſcience*, and conſtituted it the *Judge* and Rewarder of our *Conſcious Actions*, and made us accountable both to It, and Himſelf. And after Death, in all probability, our *Conſcious Acts*, in being remembred by us, will appear as plain and conſpicuous, or rather more freſh and lively, than during the Soul's Continuance and Abode in the Body: becauſe *Memory* (as every one knows) is not always alike; but more dull and unactive, and, as I may ſay, not ſo ſenſible and intelligent, at ſome times, as at others: Nor does an old Man remember ſo well as a Young: which can only proceed from ſome bodily Cauſe, or Obſtruction and Impediment. But when this Cauſe ceaſes or is removed, the Effect muſt likewiſe ceaſe; and the Soul will always Remember alike, as perfectly well at one time, as at another. Or rather perhaps, there will then be no uſe or occaſion for *Memory*; but the *Mind* will have a Capacity or Ability of continually

tinually inſpecting and reviewing its former *Conſcious* Thoughts and Acts, as being all of them evermore preſent to its Sight, and perpetually before it: ſo that it may fix its Attention (unleſs diverted by ſome extraordinary Cauſe or Occaſion) on which of them it pleaſes; as among a Multitude of viſible Objects, which are all ſeen by us together, we can chuſe and ſingle out one, to obſerve and contemplate by itſelf, and quite diſregard the reſt.

I have now ſaid almoſt all that hath hitherto occurred to my Thoughts concerning this Subject; and ſhall add only a few Words more which I imagined would be beſt reſerved for the Concluſion.

Firſt then I obſerve, that *Conſciouſneſs* is really and truly the *Life* of an *intelligent* Being, conſidered (I mean) as *intelligent*. For the true and moſt proper Notion of *Life*, is *Perception:* and therefore it is, that *Sleep*, which takes away *Perception* for the time it laſts, is called *the Image of Death*, notwithſtanding there is then no Suſpenſion of the other Faculties or Powers belonging to the animal Being or Nature. Now that which *Senſe* is, to an *Animal*, or a living *unintel-*

unintelligent Being; the ſame is *Conſciouſneſs*, to a living *intelligent* Being; for, as hath been ſhewn, it is in its Nature *intellectual*; and it is not only *Perceptive*, but eminently ſo, becauſe the Mind in being *Conſcious*, perceives it ſelf, *i. e.* a rational and intelligent Being, or it is its own Object, which is a *Perception* vaſtly ſuperior to that of being ſenſible only of Objects which are external, or without one's ſelf.

And ſeeing that *Conſciouſneſs* muſt be the higheſt Pitch and Exaltation of Life, becauſe the moſt perfect and moſt intimate (as hath been noted) of all *Perceptions* whatever; it is not conceivable or imaginable that a *Conſcious* Being ſhould ever naturally die or periſh. To ſuppoſe ſuch a Being, of itſelf, capable of Death or utter Extinction, is ſuppoſing what is naturally moſt perfect, and of the moſt excellent kind, to become naturally, or of itſelf, the moſt imperfect, and to degenerate into ſuch a State and Condition of Being, as it is the fartheſt removed from that's poſſible: which ſeems a Contradiction, eſpecially if it be conſidered that there are no natural or intrinſical Cauſes of its Degeneracy and Cor-

Corruption. This is, as if the pureſt and moſt perfect Life, or, as I may ſo call it, *very Life*, or *Life itſelf*, ſhould become *dead* and *inſenſible*, thro' ſome natural and inherent Defect; whereas the contrary is implied in the very Notion of ſuch a Life. And which I take to be the true Reaſon, why every Man in the World hath, naturally, a firm Perſuaſion and Conviction within himſelf, that his *Soul* is *immortal*, or does not die and periſh with the Body. And to think or believe otherwiſe, as ſome have pretended to do, is therefore committing a Violence upon a Man's own *Conſciouſneſs*, or thwarting and oppoſing the conſcious Dictates and Suggeſtions of his own Mind concerning it ſelf: for there is no Man who reflects at all, but muſt be ſenſible of the wonderful Excellency and Perfection of a *conſcious Life*, or of a Life which *perceives itſelf*, and hath a Senſe and Knowledge of its *own Perception*.

Alſo, foraſmuch as *Conſciouſneſs*, tho' it admits of Degrees, is undoubtedly of the ſame Kind and Nature in all Beings whatever; for it muſt always neceſſarily conſiſt in *Self-Perception*, or in having a Senſe and Know-

Knowledge of one's own Being and Exiſtence. And ſeeing that *Conſciouſneſs* is without all manner of queſtion, an *Attribute* or eſſential Property of the *Divine Nature*; and whatever is eſſential thereto muſt be truly Divine: it is conſequent hereupon that the *Mind's Conſciouſneſs* is really ſomething Divine. But the *Divine Nature* and Being, or what we call *God*, muſt be perfectly Conſcious, becauſe he is perfectly Rational and Intelligent; or rather he is *Reaſon* and *Intelligence itſelf*. *Life* (which, in an intelligent Being, is its *Conſciouſneſs*) is by all Authors, profane as well as ſacred, in a peculiar manner aſcribed and attributed to God, as the Fountain and Original of it. Now becauſe ſelf-exiſtent, which beſpeaks his Duration to be eternal, and all his other Attributes in their higheſt Degree of Perfection, he muſt be eternally, and in the moſt perfect manner, *ſelf-alive*, or ſelf-living; that is, in the higheſt degree, *ſelf-conſcious*. And becauſe always immutably the ſame, he muſt be always alike Conſcious. *God*, as the Scriptures expreſs it, neither ſlumbers nor ſleeps: He is the Father of Light, in whom is no Darkneſs at

all. *Man* therefore, or any other created Intelligence, cannot be ſo *Conſcious* as that Being which is abſolutely, and in the moſt perfect manner, *Alive* and *Intelligent*. But *God* hath beſtowed this Property on the *Mind*, in ſo high a Degree of Perfection, that it far ſurpaſſes any other Power or Capacity belonging to it. And altho', becauſe the *Mind* is not always alike *Conſcious*, and *Conſciouſneſs* ſeems to differ in the Degrees of it, in ſeveral Men, according to the Degree of their intellectual Capacities, our *Conſciouſneſs* therefore may not perhaps, at any time, be ſo perfect as that of more rational Beings, or higher *Intelligences*: however, ſince we cannot doubt but that *Conſciouſneſs* is an eſſential Property and Attribute of *the Divine Nature*; *Human Conſciouſneſs*, tho' comparatively imperfect, does certainly partake of what is *Divine*.

And from which it follows, that Man's *Reaſon* muſt be likewiſe *Divine*. For tho', conſidering its preſent Slowneſs, and Short-ſightedneſs, and Imperfection, we are loth and hardly dare to think, that it hath any Reſemblance to the *Divine Reaſon*; yet, by taking our hint and meaſure from *Conſci-*

ouſneſs,

ouſneſs, which we are aſſured is *Divine*, we are unavoidably led to acknowledge that our *Reaſon* muſt be alſo *Divine:* becauſe *Conſciouſneſs*, tho' ſo very extraordinary, is no more than a *Conſequent* of *Reaſon*; and every *Conſequent* hath the Nature of an *Effect*; and no *Effect* is ſo noble as its *Cauſe*. Wherefore, if our *Conſciouſneſs* is *Divine*, *à fortiori*, our *Reaſon* muſt be *Divine*.

The Examination of our Subject being over, (which I heartily wiſh, for my own, as well as the Reader's Benefit and Satisfaction, were much better, or rather more tolerable, than it is) it will not be amiſs briefly to declare and ſet forth the particular Uſe and Advantage of this Sort or Species of Knowledge.

Altho' Curioſity, or a Deſire of knowing Things, be natural to the Mind; yet, which is exceeding ſtrange and odd, and hath indeed a very uncouth Aſpect, and ill-boding Appearance, there is, in the Generality of Mankind, a total Unconcernedneſs and Indifferency to Know *Themſelves*, or underſtand the Nature of their own Being; as if it were the meaneſt Object of the whole Creation, or the only thing in

the World which did not deſerve their Notice and Animadverſion. Nay, a great many ſeem to be fond of their Ignorance, and to have ſuch a Loathing and Averſion to this kind of Knowledge, that they cannot endure to ſpend the leaſt part of their Time, in looking into Themſelves, tho' aſſured by thoſe who have made the Tryal, and whoſe Judgment they would rely upon in other Matters, and tho' a little Reflection of their own would quickly ſatisfy them, that they would find, within Themſelves, Things far more important and conſiderable, and more wonderful and extraordinary, than any that their Senſes are capable of affording them.

And as to thoſe few, who think it worth the while to be at the Pains and Trouble of examining into and conſidering their own Nature, they are, for the moſt part, extremely prone to undervalue and depreciate it, and willing to entertain the very worſt Opinion of it, they can. Nay, ſome have proceeded to that height of Extravagance, as to be very much diſpleaſed and diſſatisfied with their Beings, and even to wiſh, they had had any Other, rather than their Own.

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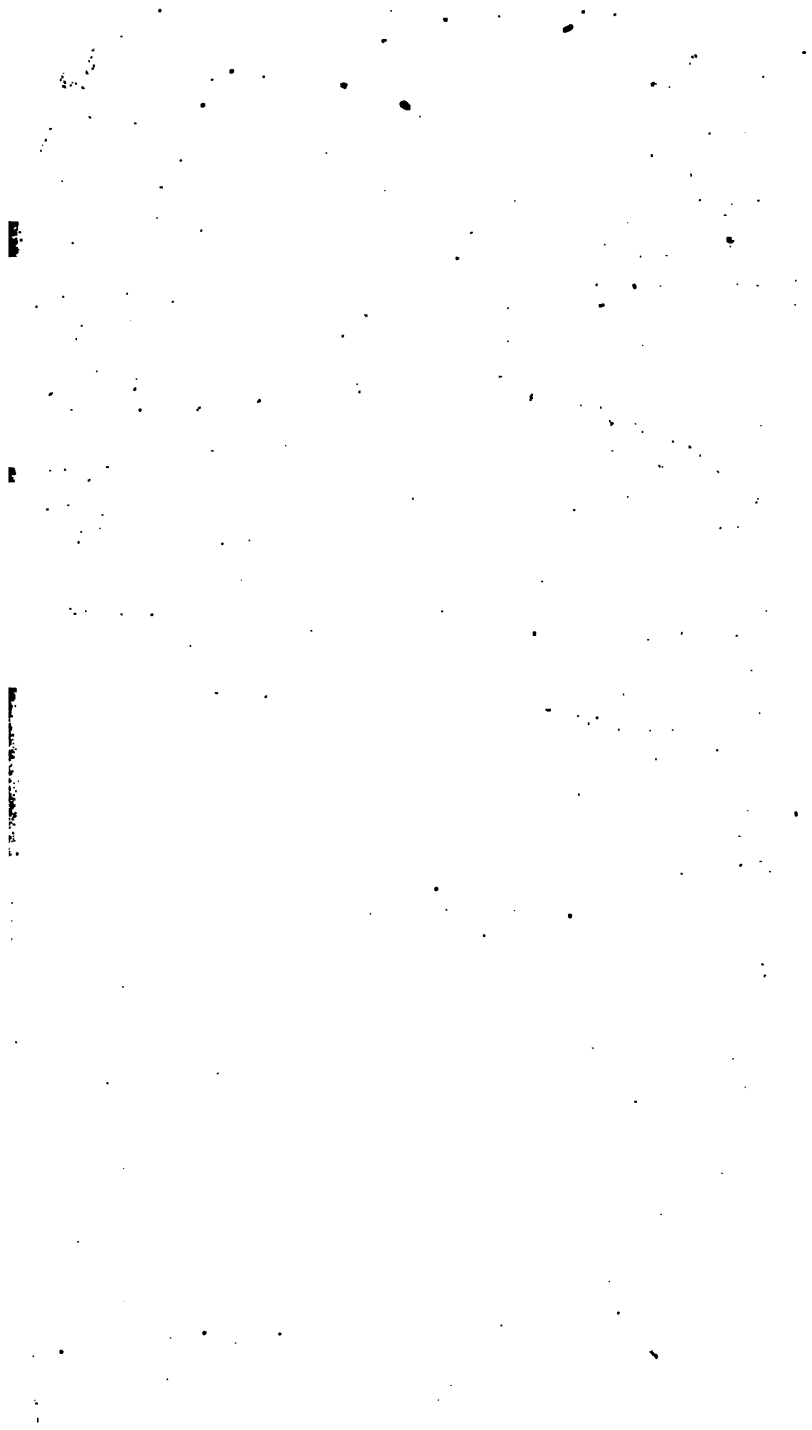
Theſe two Tempers and Diſpoſitions of Men are really ſo monſtrous, that they ſeem to be down-right Infatuations; and rather preternatural Vitioſities, than ſuch Follies and Weakneſſes as a frail and imperfect Nature might be thought ſubject and liable to. They look indeed like Judgments inflicted upon Man, by his Creator, for having abuſed the Being beſtowed on him, and rendred himſelf wholly unworthy of it. Now tho' a thorough and perfect Cure of any Malady or Diſtemper of the Mind, which is natural and born with us, be extremely difficult, and perhaps utterly to be deſpaired of, by any ordinary Remedies, or the uſe of ſuch Means as are within a Man's own Power; yet I believe there is none of this kind, ſo likely to produce ſo good an Effect, in either of theſe deplorable Caſes, as that Inſight into our Nature, which *Conſciouſneſs* affords us: Becauſe, let a Man be never ſo liſtleſs and unconcerned to know and underſtand his own Nature, or apt to deſpiſe and undervalue it, yet he cannot ſhake off the natural Deſire and Love he has of *Being*, nor without Horrour think of *Annihilation*, or being turned and left out of

Whatever Knowledge, therefore, is peculiar to *Conſciouſneſs*, or particularly owing to it, or does immediately depend on and flow from it, cannot fail, one would think, of making an extraordinary Impreſſion on the Mind of every one. And I believe, 'twill be readily allowed that *Conſciouſneſs* (even from the poor Account that hath here been given of it) has wherewithall, or is ſufficiently provided of proper Motives and Arguments, to make any Man, from being careleſs and indifferent about Himſelf or his own Nature, to become heedful and ſollicitous; and to change his Contempt of his own Being, into the greateſt Opinion and Eſteem, and, I may venture to add, the higheſt Admiration of it.

F I N I S.



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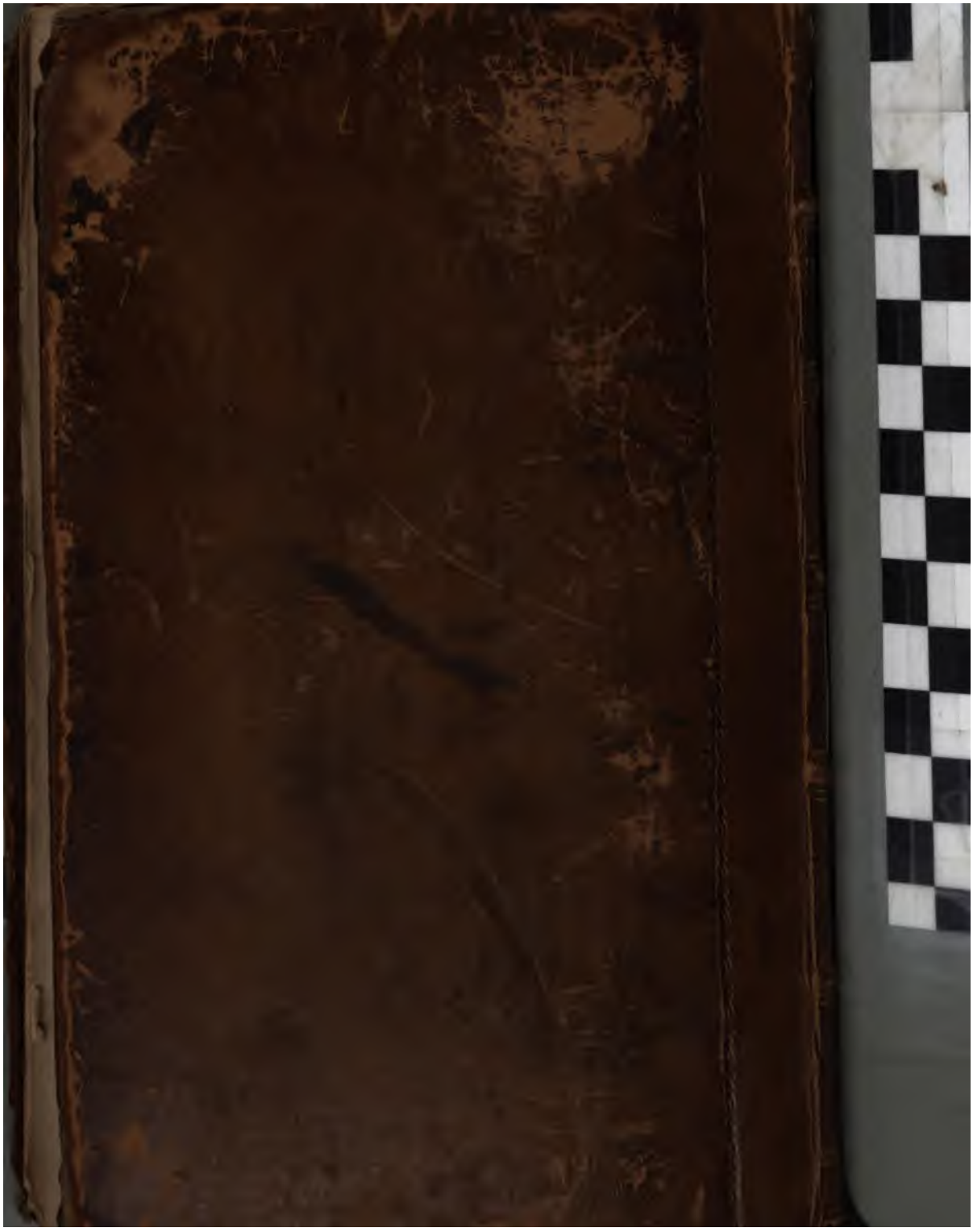
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